The Paper Trade Journal.

"The Consumption of Paper is the Measure of a People's Culture."

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Trade Topics.

Automatic Felt or Wire Guide.

Traveling belts and aprons, and particularly the felt or wire-cloth in a paper-machine, always have a tendency to stray laterally from their proper course, and the object of a guide is to check these movements and cause the apron to maintain a straightforward uniform course. This is generally done by so arranging the guide that when the apron shifts sidewise it acts upon the guide and causes an axial change in the position of the conducting-roll which effects the desired results. The apparatus illustrated is intended to guide the felt or wire-cloth in the same general way, but with a more direct and quicker action of the parts.

Figure 1 is a perspective view of the conducting-roll, the guide, and its co-operative mechanism; Fig. 2, an end elevation of the same; Fig. 3, a plain view; Fig. 4, a side elevation, partly in section.

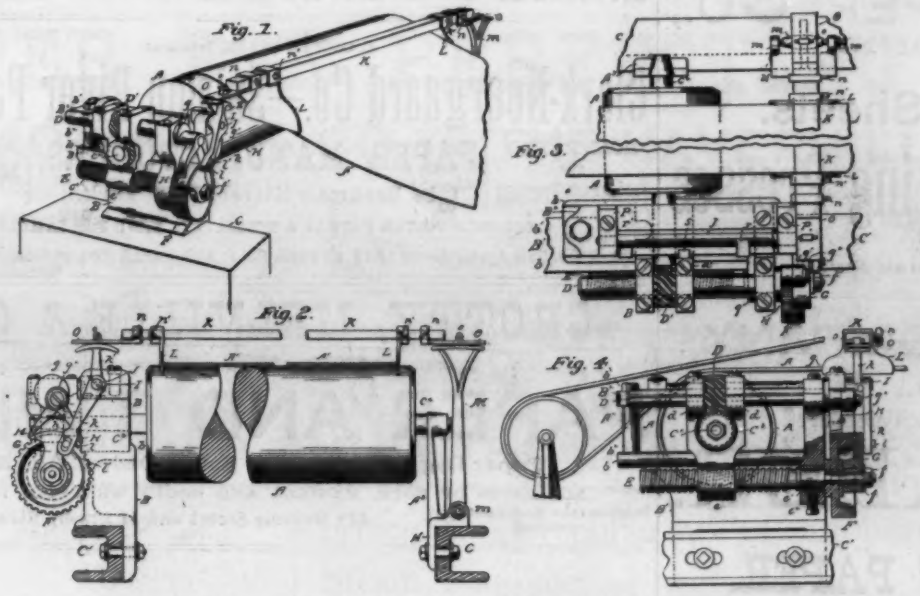
A denotes the conducting-roll, over which the felt or wire-cloth, A′, passes to the return-roll, A^2. This conducting-roll is supported at one end in a fixed standard, A^3, bolted to the bed-plate C, and at the other end is supported in a sliding or reciprocating bearing, B, arranged upon a standard, B′, bolted to the bed-plate C′. This standard B′ is arranged at a right angle to the axis of the conducting-roll and has two longitudinal side flanges, *b b*, which guide the bearing B in its movement back and forth upon the standard. This bearing is guided above by a cap-plate, B^2, which is about as long as the standard B′, and is secured thereto by bolts, *b′ b′*, which pass through respective tubes, b^3 b^3, at each end. These tubes hold the cap-plate above the standard far enough to allow free movement of the sliding bearing between the cap-plate B^2 and standard B′.

The sliding bearing is preferably a casting consisting of a square block, *a*, and an adjoining extension, *a′*. Part *a* is that portion which moves upon the standard B′ and has a central opening to receive the shaft, C^3, of the conducting-roll. The shaft C^3 at this end carries a spiral driving-gear, C^2, which plays within a socket, *c*, of the extension *a′* of the sliding bearing B, and meshes above with another spiral gear, D′, arranged at a right angle thereto between two ears, *d d*, of the extension *a′* of the sliding bearing. This gear D′ has tubular hub-bearings in the ears *d d* and is adapted to work back and forth with the sliding bearing by being splined to a feed-shaft, D, which passes through it and its hubs and has bearing at one end in an extension of the standard B′.

E is a right or left hand screw-shaft arranged parallel with the feed-shaft below and passing through a properly screw-threaded ear, *e*, of the extension *a′* of the sliding bearing, and also through a bushing, *e′*, in that portion of the standard which supports one end of the feed-shaft. The bushing *e′* is secured by a set-screw, e^2, and on the end of this screw-shaft, outside of and next to its bearing in the extension of standard B′, is splined a toothed wheel, F, by which the shaft E is operated to move the sliding bearing B to shift one end of the conducting-roll. On the extreme end of this screw-shaft, and next to the hub of the toothed wheel, is fitted a flanged bushing, *f*, which clamps the toothed wheel by means of a nut, *f′*, screwed on this end of the screw-shaft. On this bushing *f* is loosely mounted a rocker-shield, G, the upper end of which is curved and flanged so as to cover about one-fourth the circumference of the toothed wheel F.

On the end of the feed-shaft, outside of and next to its bearing in the standard, is secured a disk, *g*, having near its periphery on the outside a pin or stud, *g′*, upon which are hung two oppositely-disposed pawls, H H. These pawls, which are held in place by a nut, g^2, are united by a spiral spring, *h*, and are so arranged as to ordinarily rest upon the flange of the rocker-shield out of engagement with the toothed wheel. This is the position of the pawls when the felt or wire-cloth is pursuing its proper course over the conducting-roll.

To give effective action to either of the pawls—that is, to bring them into engagement with the toothed wheel, so as to rotate the screw-shaft, and in turn move the sliding bearing to shift one end of the conducting-roll—it is necessary to tilt or depress that end of the rocker-shield upon which rests the pawl to be used. Either of these movements is effected by tilting the shield, which is actuated by a lever, I, which is made fast at its centre to a rock-shaft, J. The lower arm, *k*, of this lever extends down to the rocker-shield, and is connected thereto by a pin or stud, *l*, which works in as lot, *l′*, in the lower end of the arm. The upper arm, *k′*, of this lever is formed into a segment and supports one end of the shipper-rod K, which carries two adjustable guide-plates, L L, and which extends transversely across the traveling felt or wire-cloth. The opposite end of this shipper-rod is likewise supported upon a similar-shaped standard, M, having lower pivot-bearings between two ears, *m m*, of a bracket, N, bolted to the bed-plate C. Over each end of the shipper-rod is clamped an arm, O, by



AUTOMATIC GUIDE FOR FELTS OR WIRES.

means of a set-screw, *n*, and these arms are held in connection with the lever I and standard M by a pin, *o*, on the top of each. The guide-plates L L are likewise clamped to the shipper-rod by means of set-screws, *n′*. The rock-shaft, to which the lever I is secured, is arranged parallel with the feed-shaft, and back of the same in substantially the same horizontal plane, and is journaled at each end in bearings, *p p*, secured to the cap-plate B^2 of the standard B′. This rock-shaft has two projecting ears, *r r′*, the former being above and the latter being below its horizontal centre. The object of these ears and their arrangement is that when the sliding bearing is moved forward or backward the lug *s* on its extension *a′* will engage with the ears *r* and *r′* and tilt the shaft J either up or down, as the case may be. For instance, supposing the sliding bearing to be moving toward the end bearings of the several shafts, then in passing the ear *r* its lug *s* would make contact with said ear from below and tilt the shaft J upward, and, on the contrary, if moving in the opposite direction, the lug *s* would make contact with ear *r′* from above and tilt the shaft J downward, and hence both the lever I and the rocker-shield G would be tilted, so that one of the pawls H would be disengaged from the toothed wheel F, while the other one would be made to engage therewith, thus either time reversing the screw-shaft and the sliding bearing.

As the conducting-roll revolves motion is imparted to the feed-shaft and to the pawls which are hung thereon, and if the felt or wire-cloth is moving forward and uniformly, with its side edges in straight lines of direction, the said pawls will work eccentrically without engaging with the teeth of the wheel F; but as soon as it begins to shift sidewise it will crowd itself against one of the guide-plates L, which will shift the shipper-rod K, and in turn tilt the lever I and the rocker-shield G. By tilting this shield one of the pawls H will be thrown into engagement with the toothed wheel F, which will actuate the intermediate connections so as to shift the one end of the conducting-roll. By thus changing the axial position of the conducting-roll it tends to give the felt or wire-cloth lateral divergence in an opposite direction, whereby it may be shifted and returned to its proper path of travel.

By means of the rock-shaft the movement of the sliding bearing is reversed in either direction, as the case may be.

Extracts From a Millwright's Diary.

[WRITTEN FOR THE JOURNAL.]

BY JAMES F. HOBART.

(Continued.)

May 20.—I did a levelling job to-day without any straight-edge. A common carpenter's level was at hand, and that was the extent of the "tools of precision" which was available.

A board 16 feet long and 12 inches wide was at hand. It was rough edged, just as it came from the saw, and both edges were far from being straight.

A strip of board was nailed four inches below the top edge of this 16-foot board, the level laid thereon, and firmly fastened by cleats and a couple of screws. The top edge of the level was placed approximately parallel with the bottom edge of the long board and firmly secured in that position.

To do the levelling, which in this case was for a long stock-house building, a number of stakes, sixteen feet apart, were driven into the ground on the line to be levelled. A nail was driven into the first stake, the long board was placed with one end thereon and the other end raised or lowered while bearing against the second post, and the adjustment continued until the bubble in the level was in the middle of its vial.

When this adjustment had been made, a nail was driven into the second stake just under the long board which served as a straight-edge. The board was next reversed or turned "end for end," and an adjustment made upon the third stake. By reversing the board at every advance it was readily seen that every other nail in the stakes was level with each other, and also that the alternate nails which were skipped had also been placed level. By drawing lines between the two sets of alternate nails, the amount of error in the extemporized straight-edge could be seen at a glance.

It must also be borne in mind that the straight-edge was reversed an *odd* number of times, or, in other words, that the first end had to come out last when reaching the extreme end of the job. To ensure this, should the distance not come out even, another stake must be driven sixteen feet distant from the stake last levelled to and the one desired to reach. It would then be necessary to level out to this offset stake, and then back to the place of desired terminus.

May 22.—In establishing the foundation for a new boiler and engine house, a soft, sandy place was met whereon I did not dare to risk laying underpinning stone right on the sand. There was no pile-driver within fifty miles, so I took half of a beating-engine roll spindle (the square half), keyed an old flange coupling on one end of the spindle, also bolted on two white oak guides, which acted much like the cross-head of a steam-engine, by guiding the spindle in a track which I afterward built for it. I next took the tallest derrick to be obtained, took off the boom and bolted oak planks upon each side of the mast, thus making a slide or run which would fit the "cross-heads" upon the spindle already fitted up. The boom windlass was removed, likewise the boom rigging, and both hoist-blocks were taken off. Then the hoist-rope was run direct from its windlass through the mast-head sheave, brought down and attached to the spindle, which could now be called a hammer.

I mounted the derrick pile-driver fashion, on two sets of long rollers, and was thus able to put the device just where I wanted it. Guy ropes were used, as in the usual manner of erecting derricks, except as no great weight was to be suspended from the mast-head, and no tall boom was in the way, the guy ropes could be and were made very short, and extended upward from the ground at angles of about 45°.

The old spindle made a fine hammer; it was raised by the hoist-windlass, and dropped by throwing the crank-shaft out of gear with the winding drum. This method of release did not of course give as heavy a blow as if the hoist-rope had been disconnected at the hammer, but the blow delivered proved plenty heavy enough to drive 6-inch piles 15 or 18 feet into the sand. I drove them until the hammer would rebound about a foot, then squared off the tops of the piles and laid the foundation and underpinning stones on them.

May 23.—There are lots of hot places in and around a mill where a little more air would be very acceptable. Fire-rooms, the bleach-room and perhaps the size-room could be made more comfortable by a change of air. A fan-blower will go far toward making hot rooms comfortable, but fan-blowers have a habit of running away with an enormous amount of power without yielding much air to show for it.

If a fan-blower is put in to ventilate a room, be sure to get a blower of large capacity, for speeding up the device in order to get a little more air is where the cost comes in.

For instance: It is desired to double the amount of air delivered by a 24-inch blower which the indicator shows is using 85 horse-power; now the effect of running the blower twice as fast will be to deliver twice as much air, under four times the pressure and to consume eight times the power! How is 56.25 horse-power consumed in getting double the quantity of air?

The moral is to put in twice as big a blower as you can ever possibly need, and then run just fast enough to supply the desired quantity of air?

A "ventilating blower," built in the shape of a short section of an eight-threaded screw, gives good results for this purpose. It has long been used in rag-rooms and in steam chimneys over the machine dryers.

For hot engine-rooms I have often built a blower right in the engine pulley, by clamping a board upon each pulley arm and extending the boards from near the hub to the rim. I found that considerable air could be set in motion by this device, and by boxing close to the boards and leaving two or three inches space between boxing and pulley rims it would act precisely like a fan-blower when a suitable inlet was left around the engine-shaft.

I continued the boxing up around the belt, and cut the belt holes generous enough to allow the air to escape.

If the belt holes allow hot air to escape into a room where its presence is not desirable, then an ordinary spout can be devised and the air allowed to escape in any desired locality. Many a hot hole can be made more comfortable by a device of this kind, and the same machine may be used in winter for warming otherwise cold buildings by the surplus heat, which is worse than useless now.

May 24.—The "old man" owns a fine house a short distance from the mill and perhaps eighty feet higher than the bottom of the wheel-pit. The water supply has given considerable trouble up at the house and, in fact, often failed entirely. The "old man" thought that it would be a fine thing to force a water supply from the mill to the house, so he put in a rotary pump and soon had no end of business in keeping the pump at work. Either a bit of dirt would get in the little suction-pipe and choke up the whole business, or the belt would get tired and lay down on the floor until the house tank got entirely empty before anybody thought of trouble. Finally the "old man" put in a hydraulic ram, took off the pump belt and hung it up on a nail. All went well for about two days, then the ram stopped, and upon investigation the air-chamber was found to be entirely filled with water. All of the air had gone, but how it got out of the chamber no man knew, but the air probably sucked out during the shocks and while the overflow, feed and delivery valves were all open.

The air-chamber was emptied, and the ram worked well for another two days, when it stopped as before. A dozen times this was repeated, and all of the millwrights had got thoroughly tired of tinkering the confounded thing. One day one of my men went into the pit and swore he would "fix the thing or 'bust' it." He disconnected the feed-pipe, took it to the shop and drilled a hole 1-16 inch in diameter close to the end of the pipe which entered the ram.

Upon putting the ram together again it promptly refused to start at all, but this man took a centre-punch and closed up the little hole in the pipe fully one-half, whereupon the ram started and worked fairly. The hole was further closed, until it was only about $\frac{3}{64}$ of an inch in diameter. Since then there has been no trouble with the ram. The hole in the feed-pipe admits a very small quantity of air at each stroke of the ram, thus keeping the air-chamber always full.

A power-pump is one of the best things wherewith to feed a steam-boiler. Sometimes it is very awkward to place the crank-rod close to the plunger, so it has to be put up overhead and connected by a long connecting-rod. Sometimes this rod will tremble and vibrate or "buckle" at every stroke. About the best way to fix such a case is to get two 2x4 pieces of plank and run them over a "wobble" saw, or a groover head, until the rod will lie partly in the groove.

For a 1-inch rod make a groove ¼ of an inch wide in each piece of plank, then put one piece on either side of the connecting-rod, bolt the two pieces of plank together with half-a-dozen carriage bolts, and the rod will never buckle again.

If the pump rod is in an engine-room or where the plank truss would be unsightly, the rod may be stiffened by putting on four light rods in the shape of trusses, struts being put under the rods in the middle of their length.

May 25.—Sometimes the millwright has to babbitt some solid boxes. If the lining is very thin there is often great trouble in getting it tight in the box. For thin linings the metal must be poured much hotter than for linings where the metal is ⅛ or ¼ of an inch thick. When very thin linings are required to be extra well made I coat the inside of the solid

(*Continued on page* 351.)

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Boston Notes.

[FROM OUR REGULAR CORRESPONDENT.]

EASTERN OFFICE PAPER TRADE JOURNAL,
250 Devonshire Street.
BOSTON, June 16, 1887.

With the close of June the first half of the year will end, and comparisons will be in order. How do the past six months compare with previous years, and what is the outlook for the coming half-year, are questions in which all are interested.

In paper-trade circles reports relative to the volume of business are very satisfactory, while the outlook for fall trade is quite encouraging. Such are the views expressed in regard to the movement of paper, but when prices are mentioned manufacturers and dealers display a feeling of regret for the past and anxiety for the future.

Talking with Mr. Carter, of Carter, Rice & Co., on this subject, that gentleman stated that the business done by his house since the first of January was larger than during any six months since the firm was established. Referring to the coming season, Mr. Carter claimed to be fully satisfied that the fall trade would be larger than ever before. Even at the present time this house is doing a good business in the distribution of goods.

J. Willard Rice, of Rice, Kendall & Co., who returned last Saturday from a Western tour, was interviewed on this same subject, and his reports on the business of the past six months and the future outlook were as fully encouraging.

Among paper-stock dealers there is also a better feeling as regards the future. Even at the present time there is a very good call for paper stock, and this dealers claim is only the beginning of what the immediate future will develop.

The chemical market is entirely devoid of special interest, the movements from week to week being unmarked by any great fluctuations in quotations or in the quantities of chemicals moved. Bleaching powders are in fair demand and firm at 1.80@1.82½c. Caustic soda is in very good demand and steady at 2.40@2.42½c. Soda ash still rules at the old familiar figures, 1¼@1.30c. for 48 per cent.; high test, 1¾@1.15c. Soda crystals are firm at .90@.92½c. from dock, .95@1c. from store.

The imports of chemicals for the week to date include 1,070 casks of bleaching powders, 300 drums of caustic soda, 736 casks of soda ash, 83 casks of alkali and 400 kegs of soda crystals.

Receipts of paper stock for the same time show a total of 3,413 bales and coils, classed as follows: 588 bales of rags, 323 bales and 186 coils of manillas, 700 bales of paper waste, 267 bales of cotton waste and 1,459 bales of paper stock.

Of miscellaneous imports the receipts include 148 bales and 298 bags of sizing, 350 casks of china clay and 936 barrels of rosin.

The Poland Paper Company, of Mechanic Falls, Me., has got into running order, two machines being in operation. The pulp mill is running and the company expects to have all the machines running in a few weeks. The product of the company is book and news. Rice, Kendall & Co. are the selling agents for the Poland Paper Company.

The Morley Paper Company, of Northhampton, Mass., has been incorporated by the Legislature, with the following officers: C. A. Edgerton, president; J. H. Morley, treasurer; the same with N. Morley, directors. Capital, $15,000.

The Child Acme Cutter and Press Company, of Boston, is a new corporation, with $20,000 capital; C. S. Lincoln, president; O. H. Child, treasurer; B. W. Child, L. Ladd and S. K. Stubbs, directors.

In view of the fact that Friday is a local holiday—Bunker Hill Day—and that business houses at this time of the year close at a very early hour on Saturdays, the leading firms in several lines of trade will remain closed from Thursday evening until Monday morning. As the leading printing-houses will so close an effort is being made to induce the paper dealers to join the movement, and a petition to that effect is being circulated to-day. Quite a number have signed, but two Boston paper houses are inclined to hold off. Should these two firms not agree to close, the movement may fall through.

If it does not rain to-morrow, we'll have a fine day to celebrate the anniversary of Bunker Hill.

DELESDERNIER.

Holyoke Notes.

[FROM OUR REGULAR CORRESPONDENT.]

HOLYOKE, Mass., June 16, 1887.

This has been rather a dry week for mill news, with nothing going on to amount to anything. The warm weather is beginning to have its influence, and the hegira to favorite summer resorts will soon begin. Some manufacturers have already gone across the water and others are preparing to go. Before many weeks this city will be pretty well represented on the other side of the big pond. There has been very little change in business since my last espistle. The mills continue to keep busy and orders are still coming in with clock-like regularity. The demand for standard grades of goods is well maintained, with prices unchanged. Although one hears now and then of some probable advance in prices, nothing definite is done to bring about such a change. Paper is lower to-day than it has been for years, and very few mills are making much money. The raw material used in the make-up of some kinds of goods, notably manillas, is somewhat higher, and there is some talk of another advance in prices.

The Holyoke Water-Power Company held its annual meeting yesterday afternoon, three-quarters of the capital stock being represented, and these directors were elected: John B. Stebbins, M. D. Ross, Charles M. Beach, James J. Goodwin, John L. Houston, James W. Wheelwright, Henry D. Hyde, Francis Goodwin. The directors re-elected John B. Stebbins president, and Edward S. Waters clerk and treasurer. William A. Chase resigned the agency of the company, which was accepted. Mr. Chase's resignation has been foreshadowed for some time, and will cause no surprise among those who are posted on the affairs of the company. Mr. Chase has been in the employ of the Water-Power Company for twenty-two years, fourteen years as its clerk, agent and treasurer, and he has seen the business grow from its early years till it has assumed vast dimensions. He entered the employ of the company as a civil engineer and worked his way up to the positions which he has recently resigned by dint of energy, business tact and native capacity. A majority of the mills, canals and dams have been built since Mr. Chase came to Holyoke, and the stock of the company has sold as high as 260 since he has had the management of its affairs. He will remain at the office for the present to assist the new agent—who will probably be E. S. Waters—in becoming accustomed to his new duties, his intention being to take a much-needed rest for a year or more, when he will engage in some kind of business. Mr. Chase received the hearty thanks of the directors for his long and faithful service, and an expression of regret that the connection must be severed.

The local creditors of E. C. Palmer & Co., of New Orleans, have been offered fifty cents on the dollar in settlement of their claims, payable in six, twelve and eighteen months.

Governor Ames has signed the bill, the synopsis of which was given in the last Holyoke letter, giving J. A. L'Amoreaux, of South Hadley Falls, the right to utilize about 200 horse-power below the dam. He will erect a mill on his land, and is already negotiating with parties who want to secure power.

The Holyoke Co-operative Bank, to which reference has occasionally been made in this correspondence in years past, has just held its annual meeting, and J. W. Moore, of the Whiting Paper Company, was made president. This bank is conducted largely by mill employees and is in a flourishing condition, the shareholders numbering between 600 and 700. The amount invested in real-estate loans is about $70,000, and the earnings for the past year averaged about 6½ per cent. on the investments.

The employees of a publishing company, 100 in all, in a neighboring city, recently found a slip in their pay envelopes on which was printed this welcome legend: "In accordance with the plan inaugurated last year, we will close at noon every Saturday from June 4 till August 27, inclusive, without deduction of pay for lost time from salaried employees." Verily, some corporations *do* possess souls. This example might well be followed by some Holyoke concerns.

The Pearl City Paper Mill at South Hadley will soon be without an occupant, as Robert Laing has decided to vacate. This mill has one 54-inch cylinder machine, two 300-pound engines and produces 1,200 pounds of manilla and tissue manilla a day. It ought not to be idle long.

The Hampshire Paper Company, of South Hadley Falls, is painting and otherwise improving the interior of its mill.

The Beebe & Holbrook baseball nine defeated the nine from the Mosher Mill on Sat-

ROLL PAPER FOR PERFECTING PRESSES.

THE GLEN MANUFACTURING CO.,
Mills at Berlin Falls N. H.
H. M. KNOWLES, Treasurer.

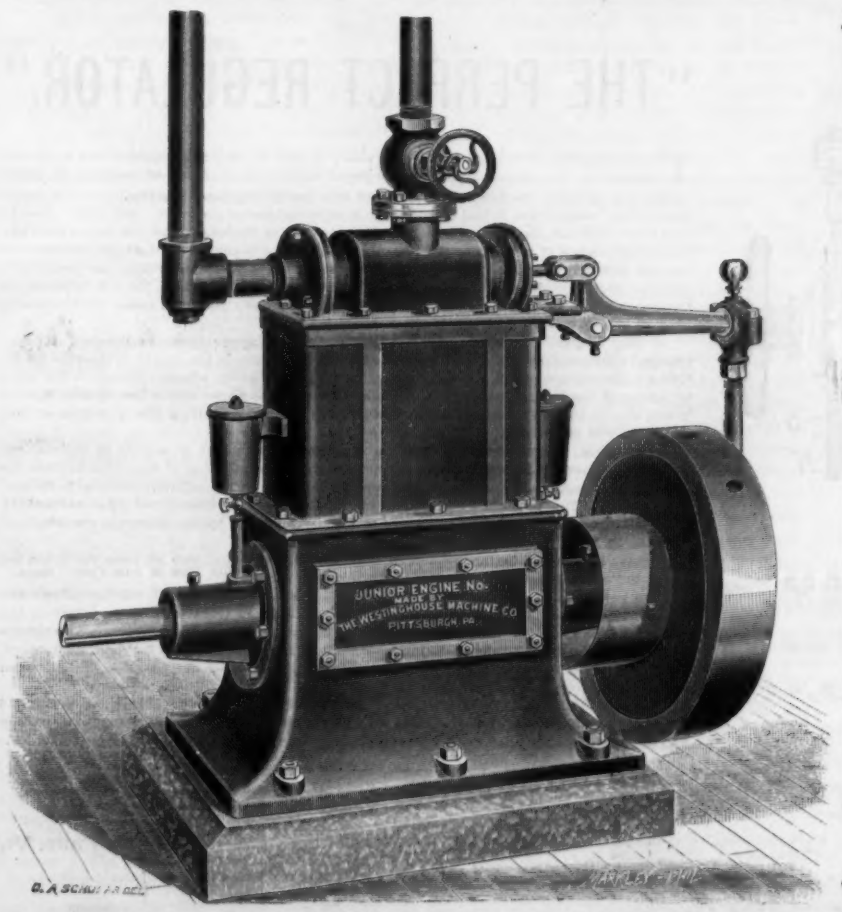
THE HAVERHILL PAPER COMPANY,
Mills at Haverhill, Mass.
I. B. HOSFORD, Treasurer.

DAILY PRODUCT: 60,000 Pounds Finished Paper; 50,000 Pounds Wood Pulp, Dry Weight.

OFFICE: 244 WASHINGTON STREET, BOSTON, MASS.

THE WESTINGHOUSE STANDARD AUTOMATIC ENGINE

has established the great practical value of the single-acting, self-lubricating principle. In pursuance of our purpose to cover the whole field of Steam Engineering with this type of Engine, we now place upon the market



THE JUNIOR AUTOMATIC ENGINE,

embodying the essential features of the "STANDARD," but designed with especial reference to COST. The bulk of the demand for a cheap Engine is under 30 H.-P., and we therefore build the "JUNIOR" in three sizes only—15, 25 and 35 H.-P.

The "JUNIOR" Engine is thoroughly well built and economical of steam. Its regulation is equal to and its running qualities better than any other except the "STANDARD." It is devoid of all finish, but is better than it looks.

IT IS THE LOWEST-PRICED ENGINE IN THE MARKET,

AND IS SOLD ON ITS MERITS.

THE WESTINGHOUSE MACHINE CO., PITTSBURCH, PA.

SALES DEPARTMENT FOR THE UNITED STATES CONDUCTED BY

WESTINGHOUSE, CHURCH, KERR & CO.,	17 Cortlandt Street, New York. / Hamilton Building, Pittsburgh, Pa.
FAIRBANKS, MORSE & CO.,	Chicago, Ill.
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PARKE & LACY,	Sydney, Australia. / San Francisco, Cal.
UTAH AND MONTANA MACHINERY CO.,	Salt Lake, Utah.
D. A. TOMPKINS & CO.,	Charlotte, N. C.
ROBERT MIDDLETON,	Mobile, Ala.
H. DUDLEY COLEMAN,	New Orleans, La.
KEATING IMPLEMENT AND MACHINE CO.,	Dallas, Texas.
IRON BAY MANUFACTURING CO.,	Marquette, Mich.

urday by a score of 25 to 19, and the young women of the Beebe & Holbrook mill presented the victors with handsome bouquets.

H.

Post-Office Department Supplies.

The following is a list of items and awards for supplies for the Post-Office Department:

Items. PAPER.

1....425 reams white foolscap, 16 lbs.
2....400 reams legal cap, 16 lbs.
3....75 reams quarto post bond, equal to Crane's No. 25.
4....900 reams quarto post "P," 12 lbs.
5....600 reams quarto post "P," 14 lbs.
6....30 reams note, similar to Marcus Ward & Co.'s R. I. L., 14 lbs.
7....800 reams packet "P," 7 lbs.
8....5 reams folio post, 28 lbs.
9....10 reams flat cap, linen stock.
10....500 reams electric bond paper.
11....400 reams book or print paper, No. 1 rag, 21¼ lbs.
12....250 reams card blotter, 100 lbs.
13....5,000 sheets bond paper, equal to Crane's No. 20.
14....2,500 sheets cardboard, manilla, 8½ oz. per sheet.
15....1,500 dozen scratch blocks, 100 leaves each, white book paper.
16....200,000 slide labels, manilla, each 1,000 labels to weigh 2 lbs. 10 oz.
17....200,000 blank examination cards, each 1,000 to weigh 3¼ lbs.
18....6,000 sheets white cardboard, to weigh 8½ oz. per sheet.

ENVELOPES.

26....20,000 heavy white envelopes XX, 8⅜ × 3⅝.
27... 500,000 white heavy "Departmental" envelopes XX, 8⅜ × 3⅝.
28....75,000 white heavy "Departmental" envelopes, to 3-16 × 4⅜.
29... 60,000 white "Departmental" envelopes, XX, 3⅝ × 5 5-16.
30 ...10,000 white "Departmental" envelopes, XX, 5⅜ × 3¼.
31....30,000 white heavy envelopes, XX, 9⅝ × 4.
32....10,000 do., 9⅝ × 4.
33....5,000 do., 11 × 5.
34....5,000 heavy bond paper, pure linen envelopes, No. 5, 3 × 5⅛.
35....10,000 envelopes, similar to Marcus Ward & Co.'s R. I. L. Baronial.
36....15,000 heavy bond paper, pure linen envelopes, No. 6, 3 3-5 × 6.

AWARDS.

E. Harrison, Washington, D. C.—Item 1, $1.90 per ream; 2, $1.90 per ream; 3, $1.75 per ream,

Bulkley, Raiguel & Co., Philadelphia.—Item 4, $1.31 per ream.

J. R. Michael, New York.—Item 5, $1.43 per ream; 7, 69c. per ream; 8, $2.94 per ream; 12, $8.47 per ream.

W. J. C. Dulaney, Baltimore, Md.—Item 6, $1.35 per ream; 13, 1 95-100c. per sheet; 15, 38c. per dozen; 35, $2.65 per 1,000; 9, $2.75 per ream.

Platner & Porter Manufacturing Company, Unionville, Conn.—Item 10, 47c. per ream.

A. G. Elliott & Co., Philadelphia, Pa.—Item 11, $1.25 per ream.

E. E. Rider, Washington, D. C.—Item 14, 5 75-100c. per sheet; 18, 4c. per sheet.

Wm. A. Wheeler, Jr., New York.—Item 16, 49½c. per 1,000.

The White-Corbin Company, Rockville, Conn.—Item 26, $1.40 per 1,000, printed $1.60; 27, $1.55 per 1,000, printed $1.75; 28, $1.85 per 1,000, printed $2.05; 29, 97c. per 1,000, printed $1.17; 30, 80c. per 1,000, printed $1; 31, $1.68 per 1,000, printed $1.88; 32, $2.25 per 1,000, printed $2.45; 33, $2.40 per 1,000, printed $2.60.

The D. W. Glass Company, Baltimore, Md.—Item 34, $2 per 1,000.

Signal Corps Supplies.

Following is a list of awards for furnishing supplies for the Signal Corps:

CARBON PAPER AND FILES.

10,000 sheets carbon paper, black, best quality, size 11¼ × 13½ in., 30c. per package. E. E. Rider.
10,000 sheets do., 13 × 13½ in., 35c. per package, do.
4,000 sheets do., 15⅜ × 13½ in., 50c. per package, do.
6,000 sheets do., 15⅜ × 13½ in., 50c. per package, do.
6,000 sheets do., 17 × 13½ in., 53c. per package, do.
7,000 sheets do., 18⅜ × 13½ in., 55c. per package, do.
8,000 sheets do., 21⅜ × 13½ in., 63c. per package, do.
700 sheets do., 19 × 13½ in., 58c. per package, do.
50,000 sheets do., 14 × 9⅜ in., 28c. per package, do.
200 Shipman's files, to contain 500 ⅛-in. stubs each, size 6 in. from back to edge, 8 in. high, 45c. each, do.

PAPER.

400 reams map paper, superfine, sized and supercalendered, cream tint, 24 × 24 in., $3.76 per ream, E. Morrison.
175 reams book paper, uncalendered, best machine finish, size 24 × 38 in., $3.05, do., A. G. Elliott & Co.
400 reams map paper, superfine, sized and supercalendered, cream tint, 19 × 24 in., $2.96, do., E. Morrison.
500 reams map paper, superfine, sized and super-calendered, cream tint, 24 × 28 in., $4, do., do.
150 reams folio post paper, white, wove, 17 × 22 in., $2.70, do., William Ballantyne & Son.
100 reams flat letter paper, white, wove, 10 × 16 in., $1.39, do., Bulkley, Raiguel & Co.
150 reams do., 10 × 16 in., $1.15, do., J. R. Michael.
50 reams, do., 10 × 16 in., 75½c., do., E. Morrison.
50 reams tea cover paper, tints as per sample, 20 × 25 in., $2.89, do., Easton & Rupp.
50 reams tissue manilla, best quality, 11 × 15 in., folded, 13c., do., Bulkley, Raiguel & Co.
250 reams quarto post, $1.59, do., J. R. Michael.
100 reams legal cap, white, ruled various widths, $1.87, do., do.
80 reams envelopes, buff or yellow, $2.70, do., John Wanamaker.
20 reams blotting-paper, yellow Treasury, No. 100, $14.85, do., Bulkley, Raiguel & Co.
10 reams foolscap, white, ruled or plain, $1.87, do., J. R. Michael.
80 reams telegraph paper, $1.12, do., William Ballantyne & Son.
1,500 lbs. telegraph paper, cut 6 × 9 in., put up in packages of 1 lb., 4¾c. per lb., Bulkley, Raiguel & Co.
10 reams strong, brown rope manilla wrapping paper, 24 × 36 in., 50 lbs. to the reams, $2.99 per ream, do., do.
10 reams, do., 24 × 36 in., 120 lbs. to the ream, $7.19, do., do.
10 reams, do., 36 × 40 in., 120 lbs to the ream, $7.21, do., do.
10 reams, do., 18 × 24 in., 40 lbs. to the ream, $2.39, do., do.
500 lbs. copying-paper, 6 × 9 in., Mann's, no bid.
50 lbs. do., 10 × 12 in., Mann's, no bid.
500 lbs. do., 6 × 9 in., Acme, no bid.
50 lbs. do., 10 × 12 in., Acme, no bid.

Chemistry Applied to Clay.

Aluminum is the metal of the future, but so many common clays are now classified as such that to avoid confusion a complete description will be given before discussing its merits. This mineral, of which so much is said and written, is described as white, very ductile and tenacious, and for crude tests we have:

Fusion	below silver.
Specific gravity	2.635, about.
Solvent	H Cl. (muriatic acid).
Solvents, when hot	$H_2 SO_4$ (sulphuric acid).
Solvent, when concentrated	NO_3 (nitric acid).

One of the very singular properties of this metal is its great difficulty of forming oxides, there being only one true oxide, viz., $Al_2 O_3$, a sesquioxide, really what is almost universally accepted as the true alumina, nothing more nor less than the pure plastic principle of all clays, and is without doubt one of the most abundant substances found in nature in the foregoing condition. With the majority of heavy acids it combines readily, forming salts, but only in specific proportions.

If we treat this metal with sulphuric acid we will find it to dissolve readily, forming, of course, the sulphate of alumina, which eventually crystallizes, perhaps with some difficulty, although for potassium sulphate it has a very strong affinity, so that when these two salts are brought in contact, or when a salt of potash is added to a strong solution of aluminum sulphate, they quickly and readily combine, forming what is known as common alum, which crystallizes very easily. This result is really an abnormal or double salt, made up of two sulphates, those of potash and alumina, and its true nature was not known until the present century, although its use has been known in the arts from the earliest history we have of these processes. The alchemists of old knew that sulphuric acid was one of the constituent elements of alum, and it was only during the latter part of the eighteenth century that it was discovered that the precipitate which falls when the acid is neutralized by an alkali is a particular kind of earth now denominated alumina, named so from the simple fact that it traced its origin to the abnormal double salt alum.

Again, another very peculiar property of this metal is its strong attraction for all matters destructible by heat, and withdraws these matters from solutions with such force that, if the purest water is not used in preparing it, the alumina will be colored, and when digested in solutions containing any of the vegetable colors, provided the alumina be in sufficient quantity, it will carry down all the coloring matter from the liquid, a fact to which is directly traceable many of the failures in obtaining desired results. This, together with the non-oxidizable nature of the metal, imparts superior properties for certain uses not equaled by any other metal or alloy.

Being so intimately associated together, without discussing in partial detail the compound alum, the simple element, alumina, would be sadly incomplete. One metal, called alum stone, a mineral found in rich abundance at and around Naples and other volcanic regions, produces a very pure alum, and near Solfatara it is being produced continually by the joint action of sulphurous acid and oxygen upon some of the feldspathic rocks. Actual analysis shows this mineral to contain an insoluble subsulphate of alumina, with sulphate of potash, although partially decomposed by the heat of that volcanic region, so much so that for the preparation of alum the crude mineral is merely heated until the sulphurous acid begins to escape, and is then treated with water, by which process a very pure and excellent alum is procured, in many respects better than the average made in this country.

In most instances the alum of this country is made from a kind of shale rich in alumina, called by many clay slate, a deposit heavily charged with iron in the form of a sulphuret, without which it would be next to impossible to economically manufacture with present processes. Quite a number of samples of this clay slate have been subjected to chemical analysis and a fair average of a good quality is about as follows:

Sulphuret of iron	26.5
Oxide of iron	3.1
Alumina	18.3
Silica	10.5
Lime	3.0
Magnesia	1.4
Bituminous matter	28.7
Water	8.5
Total	100.0

One of the best paying deposits of this mineral now being worked is found in the coal measures of Indiana, where it is built up in large heaps, with alternate layers of soft coal. By simply setting fire to the piles the one is roasted and during this process considerable sulphur is expelled, but the greater portion of it, by contact with the air, is converted into sulphurous acid, by taking up one equivalent of oxygen, and ultimately into sulphuric acid by taking a further proportion from the peroxide of iron present in the mineral as found in that locality.

It is not to be supposed, however, that the sulphuric acid remains isolated; it subsequently combines with the iron and alumina, forming sulphates with these oxides. When the roasting is done the contents of the heap are thrown into large pits into which water runs gradually, of course dissolving what sulphates have been formed during the process. The solution is then evaporated by means of dry air, when the sulphate of iron is crystallized and removed, while the sulphate of alumina, being, as stated before, difficult to crystallize, remains in solution.

All of the iron having by this means been separated, the sulphate of alumina in solution is removed to other tanks and brought in contact with sulphate of potash, or some salt of potash, when the double salt of potash and alumina is formed and the alum of commerce is the result; this, after standing a few days, crystallizes and is ready for market.

All manufacturers do not adopt the same process, but this is essentially the method by which it is made, the modus operandi being modified by each maker. In some instances soda is used instead of potash and produces a soda alum, but although considerably cheaper there are objections to it, as it is harder to crystallize, and it effloresces when exposed to the air, which causes it to resemble a dry powder. Again, the sulphate of ammonia may also be used instead of potash, giving an ammonia alum which, being more expensive and little if any better than the other variety, is not as desirable. Notwithstanding this a very large proportion of the alum now used is an ammonia alum, probably from the fact that the latter process is better understood, although it would appear from a careful examination of all the details of the three processes of manufacture that the first is the simplest and cheapest, and the product more satisfactory than that made by either of the other methods.

(To be continued.)

Mortgages, &c.

[In the appended list R. signifies a renewal of a pre-existing mortgage; B. S., bill of sale; and Real, a mortgage on real estate.]

MIDDLE STATES.

Mortgagor.	*Amount.*
A. J. Crook, Syracuse, N. Y.	$600
S. S. Converse, Utica, N. Y. (B. S.)	1
Louis H. Blumhardt, Philadelphia, Pa.	821

WESTERN STATES.

K. Flanders & Co., Chicago, Ill.	449
Charles Bates, Indianapolis, Ind.	400
H. L. Wagner, Davenport, Ia.	100
M. Wuerth, Le Mars, Ia.	258
L. Hirsch, publisher of the *Sonntagpost*, Columbus, Ohio (R.)	2,988

SOUTHERN STATES.

Barton & Cravens, publishers of the *Examiner*, Waco, Tex.	2,400

TERRITORIES.

Noyes & Towne, Ashton, Dak.	1,200

LIENS RELEASED.

Knox & Drea, Portland, Ore.	1,000

Buy "Lockwood's Directory of the Paper and Stationery Trades." Edition for 1887 now ready, full and complete. Price, $2.

B. F. PERKINS, Treasurer and General Manager.

MASON-PERKINS PAPER CO.,

Manufacturers of

COLORED POSTER

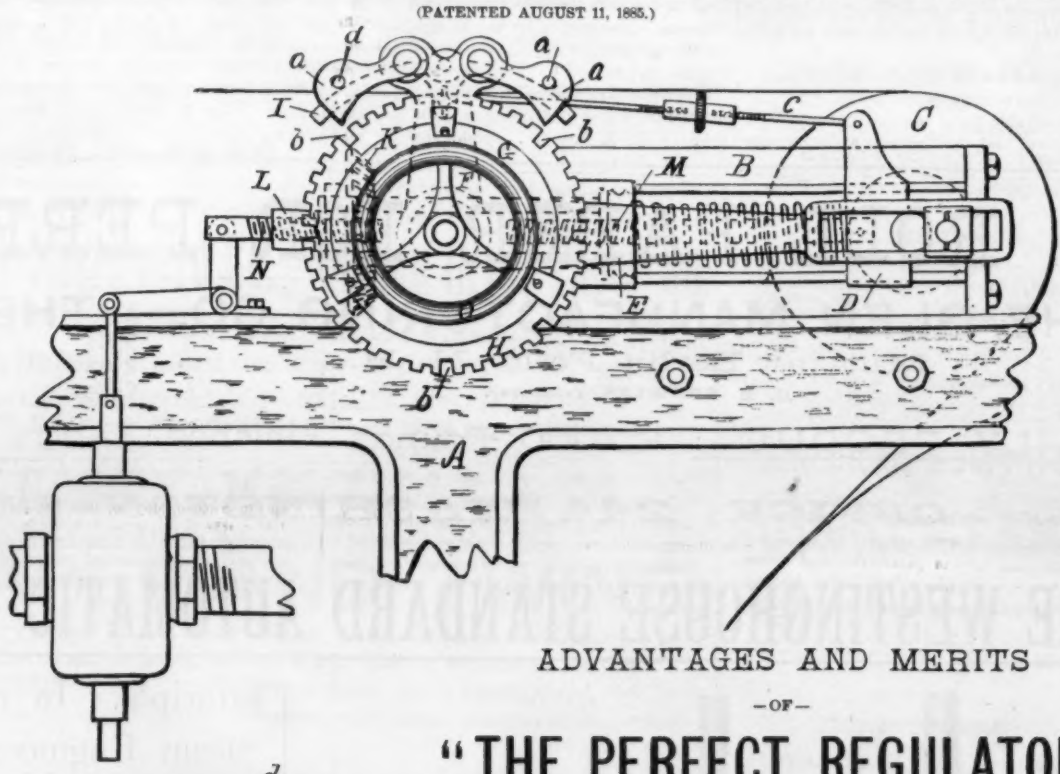
Seidlitz, Shelf and Box Papers,

BRISTOL, N. H.

SMITH'S PERFECT REGULATOR

(PATENTED AUGUST 11, 1885.)

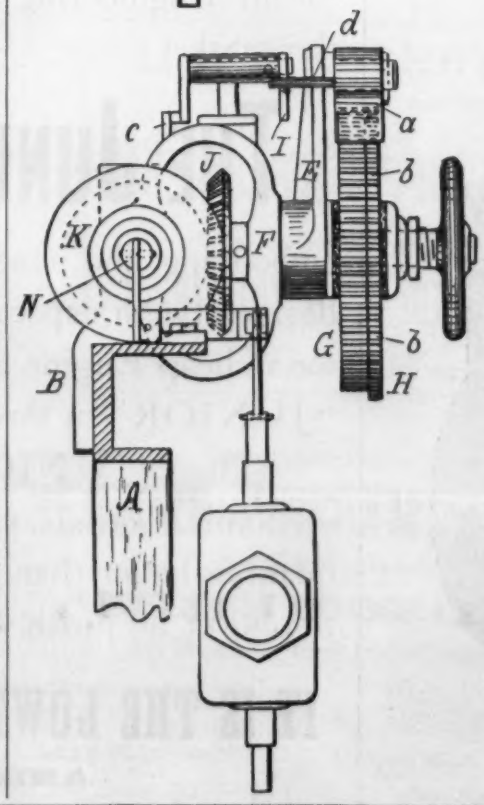
FOR PAPER MACHINES.



ADVANTAGES AND MERITS

—OF—

"THE PERFECT REGULATOR."



THE paramount advantage of this Regulator is that it *perfectly* regulates the supply of steam for the proper drying of the paper under any condition of variation in steam pressure or speed of machine. The difficulty with the old regulator was that when the paper was over or under dried it had to remain so in order to change the valve; and why? Simply because in case the paper was over-dried, the tension was increased and the valve partially closed by change in position of the roll. Now it is very evident that to maintain the valve in its new position the same tension must be continued, while the moment the paper-web becomes slightly under-dried, owing to the partial closing of the valve, the roll resumes its former position, the tension relaxed and the valve opened, when the same circumstances exist as before, and the paper-web again over-dried.

In the "Perfect Regulator" the roll **C** is maintained approximately stationary and any change in the position of the valve is effected by the alteration in the length of the rods **M N**; hence, if the tension varies, the roll changes its position slightly, effects a change in the valve by means of the rods, when said roll, if the condition of the paper-web is just right or altered in any way, is allowed to resume its normal position without **affecting the position of the valve in the slightest.**

The tension, when once established for a given weight paper, is always so maintained, since any deviation from the roll from a certain point operates one of the pawls to alter the valve and increase or diminish the steam supply, and then is immediately restored to its normal position. The roll, after adjustment of the Regulator, is maintained **approximately** fixed and proper adjustment of the valve is rapidly obtained by the change in the length of the rods **M N.**

The least variation in the tension or condition of the paper-web at once regulates the valve, and the mischief of over or under drying does not occur.

The construction of the loose ratchet-wheel with its peripheral notches allows the active ratchet-wheel to be employed **only at intervals of time, after any change in the position of the valve**; while during that interval the paper-web is given opportunity to change its tension. Hence if the change is just sufficient the regulator becomes for the time inactive.

The regulator operates only when the condition of the paper or its tension departs from its normal or proper degree of dryness.

Very slight alteration in the position of the roll or tension of the paper effects a multiplied change in the position of the valve, while the roll is always free to resume its normal position and the valve remains unaffected. Such movement was impossible in the old style regulator.

ADDRESS

FALL MOUNTAIN PAPER CO.,

53 Devonshire St., Boston, or Bellows Falls, Vt.

The WAXED PAPER made under the Hammerschlag process will hereafter be known as

"HAMMERSCHLAG WAXED PAPER,"

and each package will be marked with the accompanying label:

HAMMERSCHLAG

WAXED **PAPER.**

TRADE MARK.

Manufactured under Letters Patent August 7, 1877; Reissued October 22, 1878; Letters Patent October 29, 1878; Letters Patent July 8, 1879.

THE HAMMERSCHLAG MFG. COMPANY,

NEW YORK.

A FULL LINE CONSTANTLY ON HAND AND FOR SALE AT OUR AGENTS:

GARRETT & BUCHANAN, Philadelphia.
CHASE & CO., Boston.
FITCH, HUNT & CO., Chicago.
THE MERIAM & MORGAN PARAFFINE CO., Cleveland, O.
BLAKE, MOFFITT & TOWNE, San Francisco, Cal.

AND AT OUR OFFICES,

232 and 234 Greenwich St., New York.

Continued from first page.

box by means of muriatic acid and zinc (the box being thoroughly cleaned and made bright), then heat it hot enough to melt the babbitt-metal; the core set in is heated also and the metal is poured around it. When cool there will be a solid box.

Another way and a quick one is to pour the box, then chuck the work and spin the lining metal against the box by means of a blunt, smooth tool set in the lathe.

The box may, if large enough, be hammered inside, thus stretching the lining until it fits. In large half boxes this should also be done to insure the best work. In all cases the box should be turned in a lathe or reamed up to size with a sharp reamer, and, of course, for this purpose the box must first be cast small enough to allow of such reaming.

(To be continued.)

Electric Bleaching.

Under the above heading the *Papier Zeitung* contained a report of the views of Messrs. Cross and Bevan, the analytical chemists, on the Hermite process. It would appear from the figures given by them that the bleaching liquid can be obtained far cheaper by the aid of electricity than by the chemical process. It seems incomprehensible in that case that we should have vexed ourselves so long with chloride of lime and not have introduced electric bleaching years ago. The figures presented by these gentlemen are so convincing for persons unacquainted with chemistry that probably many may be led to attempt more or less costly experiments. I shall try in the following to give the statements of Messrs. Cross and Bevan their proper value and enlighten the reader as to the real facts about electric bleaching.

The reduction of water and its salts by the electric current is one of the fundamental facts of modern chemistry. The very reduction of the chlorides of metals first led to the determination of the nature of chlorides of metals as mineral salts, and alkalies and earthy alkali metals were first obtained by electrolysis. The progress made in electrotechnical processes, &c., has rendered it possible to do work by the electric current which formerly was done imperfectly by the old electric machines. Since this has been fairly well done by dynamo machines there is, naturally, a desire to use the electric current for chemical changes, and it has been successful in many cases. The first success was in depositing coatings of metals on other metals. Dynamo machines were adopted in metallurgy and often used for the production and cleansing of metals. Within a few years the electric current as produced by mechanical means has also found access into chemical works and has been employed for transformations previously obtained by chemical means.

It will be easily understood from the foregoing that the labors of chemists and others have been lately directed to making use of this new agent to decompose the chlorides into their elements.

Metal and chlorine, when decomposed into an aqueous solution by the electric current, do not appear as such, but as metallic oxide-hydrate and chlorine, according to the equation:

$$\underbrace{NaCl}_{\text{Table salt.}} + \underbrace{H_2O}_{\text{Water.}} = \underbrace{NaOH}_{\substack{\text{Negative pole.}\\ \text{Caustic soda}\\ \text{and hydrogen.}}} + H + \underbrace{Cl}_{\substack{\text{Positive}\\ \text{pole.}\\ \text{Free}\\ \text{chlorine.}}}$$

The first attempts at obtaining chlorine and soda in this way date from the beginning of the century. If the two poles which communicate the electric current to the liquid to be decomposed are separated by a porous partition, through which liquids, however, can pass, we shall find soda lye in a cell of one of the divisions; at the same time free hydrogen is developed, while free chlorine appears at the positive pole in the positive cell. This decomposition process has been patented several times. Some time in 1870-79 D. G. Fitzgerald and B. C. Molloy introduced a bleaching liquid in London which they produced by decomposing the sea-water near Margate. Cokes impregnated with paraffine were used as electrodes. As table salt can be obtained very cheaply on the sea-coast from sea-water, it would seem that this method of obtaining a bleaching liquid has the most chance of success, especially if natural bights could be taken advantage of to actuate water motors by the tides, and thus give the motive-power to the dynamo machines. Despite such favorable conditions, whether on the sea-coast or in mountains where considerable water-power is at hand, we hear very little of any practical results. The failure is very easily understood by any person who knows what the electric decomposition of water and the chlorides is. The electric decomposition of dry, melted chlorides, as that of table salt and that of chloride of calcium, takes place quite quantitatively. The chloride of magnesium is decomposed into free chlorine and free magnesium:

$$\underbrace{MgCl_2}_{\substack{\text{Chloride of}\\ \text{magnesium.}}} = \underbrace{Mg}_{\text{Magnesium.}} + \underbrace{Cl_2}_{\text{Chlorine.}}$$

Quite different, however, is the decomposition of the chloride in water, for, in this case, the two decompositions, of the water and the chloride by the electric current, run together. Out of the decomposition products we have: In the negative cell:

$$\underbrace{Mg}_{\text{Magnesium.}} + \underbrace{H_2O}_{\text{Water.}} = \underbrace{MgO}_{\substack{\text{Oxide of mag-}\\ \text{nesium.}}} + \underbrace{H^2}_{\text{Hydrogen.}}$$

In the positive cell:

$$\underbrace{Cl_2}_{\text{Chlorine.}} + \underbrace{H_2O}_{\text{Water.}} = \underbrace{HCl}_{\substack{\text{Hydrochloric}\\ \text{acid.}}} + \underbrace{H{-}O{-}Cl}_{\substack{\text{Hypochlorous}\\ \text{acid.}}}$$

In addition to this we find the formation of active oxygen in the positive cell, either by direct or indirect decomposition of water, according to the equation:

$$\underbrace{H_2O}_{\text{Water.}} = \underbrace{H_2}_{\substack{\text{Hydrogen.}\\ \text{Negative cell.}}} + \underbrace{\oplus}_{\substack{\text{Active oxygen.}\\ \text{Positive cell.}}}$$

The active oxygen formed from the water has the property, however, of forming a combination with the active oxygen of the hypochloric acid, and from both ordinary oxygen, which possesses no bleaching qualities whatever, is formed, according to the formula:

$$\underbrace{H{-}O{-}Cl}_{\substack{\text{Hypochlorous}\\ \text{acid.}}} + \underbrace{\oplus}_{\substack{\text{Active oxy-}\\ \text{gen.}}} = \underbrace{HCl}_{\substack{\text{Hydrochlo-}\\ \text{ric acid.}}} + \underbrace{O_2}_{\substack{\text{Common non-}\\ \text{bleaching}\\ \text{oxygen.}}}$$

A portion of the chemical energy is liberated in the form of hydrogen in the negative cell, which can be used as combustible material and the oxhydrate of magnesium is formed along with it. In the positive cell, on the contrary, in addition to the bleaching liquid there is formed more or less of the common non-bleaching oxygen, as also oxide of the chlorine, which possess no bleaching quality. If the conditions of the chloride decomposition can be arranged so that there will be no loss of chemical energy, especially of bleaching salts, it is possible that the electric formation of bleaching material for technical purposes possesses advantages over the methods at present in use. Is this the case with the process of Eugene Hermite, which is indorsed by Messrs. Cross and Bevan?

I must decidedly deny this, basing my opinion on the results of experiments I have made during late years of electrolysis in purely chemical physiological work. I have already indicated a great cause of defects, which has its origin in the development of common oxygen from the bleaching liquid, and which is significant of a great loss. Professor Lunge has taken advantage of this property of the decomposition of bleaching powder by active oxygen, together with the production of common oxygen, to show his analysis of chloride of lime with his nitrometer, by decomposing active oxygen in the form of binoxide of hydrogen by the solution of the chloride of lime to be examined, and measuring the freely liberated common oxygen in the nitrometer.

Hermite's process, especially in the determining indicated recovery of the chloride of magnesium dye in the electric decomposing apparatus, may be termed a complete failure, both from a theoretical and a practical point of view. If no satisfactory result has as yet been attained with pure chlorides by means of electric decomposition, the success is still less with a solution containing the soluble organic ingredients of the fibres. The bleaching liquid containing the organic decomposing particles of the fibres which is formed by electrolysis will be very small, the electric force being mostly lost in the conversion into carbonic acid of these organic soluble stuffs.

Every practical bleacher is aware that there is no advantage in a new solution of chloride of lime to one that has been already used. The hypochloric salts decompose the soluble bodies and turn them into carbonic acid. This is still more the case in the electrolysis of water and chlorides. Not only are most organic combinations turned into carbonic acid by electrolysis in an aqueous solution, but even one of the most incombustible forms of carbon—retort coke—is completely converted into carbonic acid. In the experiments of Lidon and Tichomirow the carbon electrodes were changed so quickly into carbonic acid that they could be used for one time only. Organic matter causes, without doubt, more or less loss of the bleaching oxygen which is used in the oxidation of the soluble cellulose by electrolysis, as heat is formed, but less bleaching liquid. If the chlorine formed by electrolysis is not free from organic matter it is not suitable, and renewed use of the bleaching liquid, as proposed by Hermite, is nonsensical. I would advise manufacturers to wait until they hear of the practical success of the process.—*Dr. C. Würster.*

Rapid Removal of Chlorine Gas from the Bleaching Chests.

In many mills it is considered indispensable to bleach certain kinds of rags with a gaseous chlorine. To remove this gas as quickly as possible and to be able to use it again, I made use some years ago of a simple

apparatus. I connected the different chests with water-valves by means of lead pipes and conducted the gases by a small ventilator. Every article in the bleaching chests, the pipes and the ventilator were covered with paraffine, which has proved very resistant to chlorine gas. A washing vessel was placed between the chests and the aspirating apparatus to keep back the chlorine vapors. I used a lead cylinder, filled with coke and having water running over it. A false bottom, *b*, with small siphons, *a a a*, the rims of which were obliquely cut, was used as a distributing apparatus. The original plan of using a solution of soda or lime water as absorbent was shown to be unnecessary, as water alone performed the service and the quantity of chlorine was too small to render the chlorine water available. The lead vessel may, however, be replaced by a wooden one, impregnated with paraffine.

Not only could the hands work at the bleaching chests, but all injurious effects to their health, as well as the rusting of the machinery, were avoided, as the air escaping from the ventilator had no odor of chlorine.—*Dr. C. Würster.*

New Patents.

No. 362,179. Apparatus for Grooving Cardboard.—Theodor Remus, Dresden, Germany, assignor of one-half to Jean Scherbel, same place. Patented in Germany, October 16, 1885, No. 35,151; in England, April 30, 1886, No. 5,894; in Belgium, May 8, 1886, No. 73,037; in France, May 10, 1886, No. 176,040; in Sweden, May 20, 1886, No. 491; in Spain, June 5, 1886, No. 9,215; in Norway, June 11, 1886, No. 103; in Italy, June 12, 1886, No. 19,956; in Austria-Hungary, June 27, 1886, No. 8,592 and No. 24,758, and in Denmark, August 20, 1886, No. 754.

No. 362,180. Apparatus for Cutting Grooves in Cardboard, &c.—Theodor Remus, Dresden, Saxony, Germany, assignor of one-half to Jean Scherbel, same place. Patented in Belgium October 15, 1886, No. 74,850, and in France October 15, 1886, No. 176,040.

No. 362,256. Holder for Paper Bags and Goods.—N. Eugene Drake, Ithaca, N. Y.

No. 362,279. Machine for Bundling Wall-Paper.—Samuel M. Jackson, Logansport, Ind.

No. 362,547. Apparatus for Waxing Paper.—Isaac Sherck and Joseph Batig, Jr., Fremont, Ohio, assignors to the American Wax Paper Company, same place.

No. 362,677. Manufacture of Caustic Soda.—Ernest Solvay, Brussels, Belgium.

No. 362,790. Dandy Roll.—Joseph J. Sellers, Philadelphia, Pa.

LABELS.

No. 5,183. Title: "The New Self-Opening Square Paper-Bag."—The New York Paper-Bag Machine and Manufacturing Company, New York, N. Y.

TRADE-MARKS.

No. 14,268. Paper Bags.—The New York Paper Bag Machine and Manufacturing Company, New York, N. Y. Used since July 25, 1886.

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No. 14,308. Note Paper and Envelopes.—G. B. Hurd & Co., New York, N.Y. Used since December 1, 1885.

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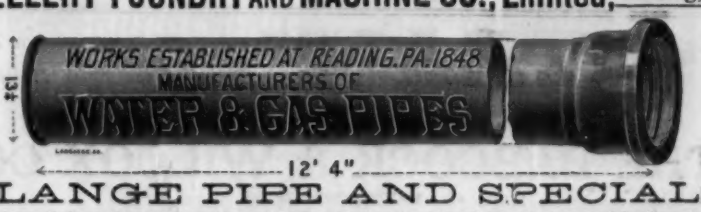

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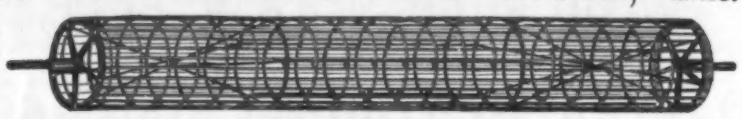

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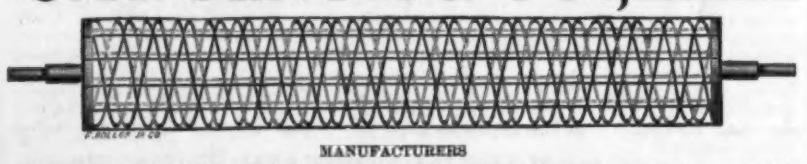

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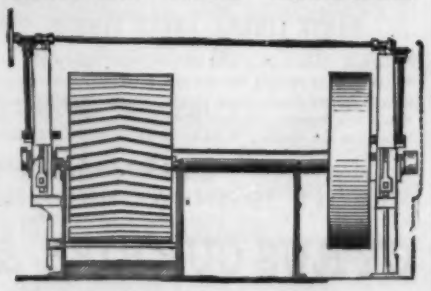

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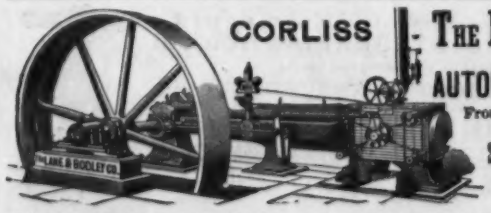

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LIBMANN, JOSEPH, & CO., New Rags a Specialty. 158 South Fifth ave., N. Y.

LYON, J. W., & CO., 44 and 46 Duane st., N. Y.

LYON, JOHN H., & CO., 10 & 12 Reade st., N. Y.

McQUADE, ARTHUR J., 535 & 537 E. 13th st., N. Y.

MORE & IRVINE, Rags, Paper Stock, Rubber, &c., 140 Baxter st., N. Y.

O'MEARA, M., 277 Water st., N. Y.

OVERTON, R. H., 8 Reade st., N. Y.

PEYTON, R., & CO., Paper and Paper Stock, 56 Thomas st.

ROZÉS BROTHERS, Tribune Building.

RUSSELL, M., Domestic Paper Stock of all grades. 30 City Hall pl.

SAVAGE, JAMES, Jr., 530 to 536 W. 38th st., N. Y.

SERGEANT BROS., 132 Nassau st., N. Y.

STOCKWELL, JOHN C., Dealer in Paper-Makers' Stock. (Established 1850.) 44 Ann st., N. Y.

WARD, OWEN, & SONS, 448 & 450 West 39th st.

WYNNE, T. F., 13 & 15 Columbia st., Brooklyn, N. Y.

YOUNG, P., Washington av. near Wallabout Bridge, Brooklyn, E. D.

Straw Boards.

HAYES, JAMES E., & CO. 75 Duane st.

JAEGER, GUSTAV L., Straw Boards, Lining and Box Machinery. 136 and 138 Mulberry st., N. Y.

OUT OF TOWN HOUSES.

Architects.

TOWER, D. H. & A. B.—Designs for Paper and Fibre Mills. Surveys and Plans for Mill Sites. Valuations of Mill Properties. Holyoke, Mass.

Dandy Roll Manufacturers.

BUCHANAN, BOLT & CO., Patent Seamless Wove and Laid Dandy Rolls. Holyoke, Mass.

CHENEY BIGELOW WIRE WORKS, Springfield, Mass. Pat. Seamless Wove and Laid Dandy Rolls.

Grindstones for Wood Pulp.

UNION STONE CO. (EMERY), Boston, Mass.

Paper Manufacturers.

JERSEY CITY PAPER CO., White and Colored Tissue & Manilla Wrapping, Cornelison avenue and Montgomery st., Jersey City, N. J.

Paper Makers' and Paper Stainers' Colors.

HAMPDEN PAINT & CHEMICAL CO., Springfield, Mass.

Paper Making Machinery.

SMITH, WINCHESTER & CO., South Windham, Ct.

THE SIBLEY MACHINE CO., Norwich, Conn.

Rags, Paper and Paper Stock.

BULKLEY, RAIGUEL & CO. (Late with J. G. Ditman & Co.), 22 South Fifth and 500 and 502 Minor st., Philadelphia.

BUTLER, THOMAS, Cotton and Woolen Rags, Iron and Metals. 249 Causeway st., Boston, Mass.

BRODERICK BROS., 608-614 W. Pratt St., Baltimore.

ELLIOT, A. G., & Co., Paper and Paper Stock, 32 and 34 South Sixth st., Philadelphia.

FORESTELLE, P., 21 Wallace st., Bridgeport, Conn.

GRAVES, FRANK B., All-Wool Shoddies, Cotton and Wool Waste, Noils, &c. 137 River St., Troy, N. Y.

HEY, LEVI, Paper and Paper Stock, Rochester, N. Y.

LANEY, JAMES, & CO., Dealer in Paper and Paper Stock, Cotton and Woolen Rags, Rochester, N. Y.

MAYO, A. N., & CO., Successors to Dickinson & Mayo, Rags and Paper Stock. Springfield, Mass.

Rags, Paper and Paper Stock.

McKEON, P. & J., Dealers in Woolen and Cotton Rags, &c. 253 Fourth st., Brooklyn, E. D.

MILLET, GEO. W., Straw and Manilla Papers, Paper Bags and Flour Sacks, 507 N. 2d St., Phila., Pa.

RICHMOND & CO., F. H., Paper and Paper Stock Warehouse, Cotton Waste Dealers, Providence, R. I.

SIMMONS, JOHN, Wholesale Dealer in Paper and Rags, 20 and 22 Decatur street, Philadelphia.

SNIDER'S, LOUIS, SONS, Manufacturers and Wholesale Paper Dealers, 122 Walnut st., Cincinnati, Ohio.

WILLCOX, JAMES M. & CO., Wholesale Commission Paper and Rag Warehouse, 509 Minor street, Philadelphia, Pa.

Rosin for Paper Makers.

E. E. CLARK is at first hands for perfectly clean Batting Strained Rosin for Paper-Maker's use. Orders solicited. 5 Custom-House St., Botson, Mass.

Screen Plate Manufacturers and Repairers.

ASHMUN SCREEN PLATE CO., old plates renewed; charges moderate. P. O. Box 210, Paterson, N. J.

HARDY & PINDER, manufacturers of Patent Cast-Metal Sectional Screen Plates. Fitchburg, Mass.

JUDSON, A. C., & WILLIAMS, successors to late Howard Judson, Holyoke, Mass., manufacturers of Patent and the ordinary Screen Plates.

Straw Boards.

PINKHAM, T., agent for Androscoggin Pulp Co.'s White Box Boards and Ashland Leather Board, 24 Friend and 52 Elm streets, Boston, Mass.

TUCKER'S, E., SONS, Straw Boards, Paper, Twines, Paper Box Mach'y, 100 Trumbull st. Hartford, Conn.

IMPORTS AT NEW YORK.

FOR THE WEEK ENDED JUNE 10, 1887.

An. Colors..	439	$28,495	Paper.....	315	$17,247
Alum.....	6	69	Steel Pens...	9	155
Alum's Cake	—	—	Stationery...	12	1,215
Bl. Powders.	595	11,394	Slate Pencils	5	52
Soda Ash...	1,516	30,703	Clay.....	—	4,539
Soda, Caus..	140	2,375	Jute Butts...	—	—
Soda, Sal....	—	—	P. Hangings	8	576
Ultramarine.	23	987	Paper Stock.	3,355	46,073
Books.....	199	25,214	Terra Alba..	210	1,059
Newspapers.	263	8,423	Waste.....	123	6,936
Engravings.	39	6,089	Wood Pulp	8,730	15,153
Ink.....	1	40			
Lead Pencils	15	3,835	Totals....	26,196	210,649

Imports General Merchandise for the week ended June 10, 1887..... $6,842,037

IMPORTS OF PAPER STOCK AT NEW YORK.

JANUARY 1 TO JUNE 14, 1887.

Whence Imported.	*Rags.* Bales.	*Old Papers.* Bales.	*Wood Pulp.* Bales.	*Manilla Stock.* Bales.
Alexandria.....	1,236	—	—	—
Amsterdam.....	—	—	649	—
Antwerp.....*a*	600	—	1,257	749
Arendal.....	—	—	600	—
Belfast.....	72	—	—	—
Bordeaux.....	168	—	—	37
Bremen.....	2,679	—	—	1,724
Bristol.....	—	—	—	140
Calcutta.....	100	—	—	2,867
Christiania.....	89	—	14,287	—
Copenhagen.....	34	—	14,451	131
Dundee.....	115	1,257	—	7,834
Glasgow.....	39	116	—	—
Genoa.....	—	—	—	1,437
Gothenburg.....	—	—	15,409	161
Hamburg.....*b*	3,301	80	860	2,145
Hiogo.....	14,487	—	—	—
Hull.....*c*	11,063	665	17,060	7,248
Leghorn.....	1,470	—	—	—
Leith.....	197	1,528	—	887
Liverpool.....*d*	3,015	2,215	—	8,068
London.....*e*	5,433	7,376	1,694	2,385
Marseilles.....	314	—	—	34
Nassau.....	—	—	—	34
Newcastle.....	—	—	250	—
Rotterdam.....	508	80	638	52
Salonica.....	362	—	—	—
Stettin.....	2,643	—	22,397	2,225
Swinemünde.....	659	—	2,747	126

a. Including 179 bs. flax waste.
b. Including 214 bs. cotton waste.
c. Including 481 bs. flax waste and 964 bs. cotton waste.
d. Including 1,135 bs. cotton waste.
e. Including 213 bs. cotton waste and 369 bs. flax waste.

NEW YORK IMPORTS.

FROM JUNE 7 TO JUNE 14, 1887.

Paper Stock.

A. Wertheim & Co., Leerdam, Amsterdam, 46 bs. wood pulp.
J. W. Lyon & Co., Penniand, Antwerp, 50 bs. wood pulp.
John H. Lyon & Co., Jan Brydal, Antwerp, 14 bs. rags.
E. Hatton & Co., Adolph, Bremen, 200 bs. rags, 214 bs. bagging.
Atterbury Brothers, by same, 76 bs. bagging.
M. A. Ring, Jr., C. J. Shiar, Bristol, 120 coils manillas.
Perkins, Goodwin & Co., Croma, Dundee, 211 bs. manillas.
W. I. Clark, by same, 94 bs. manillas.
Jessup & Moore, by same, 81 bs. rags.
Perkins, Goodwin & Co., Critic, Dundee, 244 bs. manillas.
J. L. Taylor, by same, 256 bs. manillas, 27 bs. papers.
R. H. Overton, by same, 130 bs. bagging.
Jessup & Moore, by same, 129 bs. bagging.
Woolworth & Graham, by same, 39 bs. bagging.
John H. Lyon & Co., Lessing, Hamburg, 160 bs. rags.
Norwegian Wood Pulp Company, Otranto, Hull, 240 bs. wood pulp.
W. H. Parsons & Co., by same, 68 bs. wood pulp.
John H. Lyon & Co., by same, 1,804 bs. wood pulp.
J. W. Lyon & Co., by same, 552 bs. wood pulp, 71 bs. rags.
M. A. Ring, Jr., by same, 123 bs. rags.
Woolworth & Graham, by same, 156 bs. bagging.
Train, Smith & Co., by same, 41 bs. rags.
Atterbury Brothers, by same, 93 bs. bagging.
Perkins, Goodwin & Co., by same, 264 bs. rags.
A. Wertheim & Co., by same, 130 bs. rags, 37 bs. manillas.
E. Hatton & Co., by same, 164 bs. rags.
F. A. Reichard, by same, 137 bs. manillas, 47 bs. bagging.
Lewy Brothers, by same, 461 bs. rags.
W. A. Castle, M. Parodi, Leghorn, 400 bs. rags.
W. A. Castle, Caledonia, Leghorn, 95 bs. rags.
Train, Smith & Co., Critic, Leith, 160 bs. papers.
John H. Lyon & Co., by same, 65 bs. papers.
Burgass & Co., France, London, 51 bs. rags.
R. H. Overton, by same, 37 bs. papers.
Woolworth & Graham, by same, 17 bs. papers.
Atterbury Brothers, by same, 41 bs. rags.
John H. Lyon & Co., by same, 69 bs. rags.
Perkins, Goodwin & Co., Highflyer, London, 132 bs. rags.
W. I. Clark, by same, 100 bs. papers.
W. I. Clark, Calliope, London, 332 bs. papers.
Burgass & Co., by same, 87 bs. papers
Lewy Brothers, Canada, London, 170 bs. rags.
W. A. Avis & Co., City of Richmond, Liverpool, 22 bs. papers.
M. A. Ring, Jr., by same, 52 bs. rags.
Burgass & Co., Hekla, Stettin, 1,586 bs. bagging.
John H. Lyon & Co., by same, 1,042 bs. wood pulp.
Norwegian Wood Pulp Company, by same, 3,372 bs. wood pulp.

Paper.

E. Fougera, Chateau Leoville, Bordeaux, 25 cs.
F. R. Arnold, by same, 35 cs.
A. Ireland, State of Nevada, Glasgow, 18 cs.
W. H. Ross, by same, 2 cs.
E. Burstadt, Pennland, Antwerp, 1 cs.
A. Goldsmith & Co., by same, 6 cs.
L. De Jonge & Co., by same, 16 cs.
Scoville Manufacturing Company, Lessing, Hamburg, 8 cs.
G. Gennert, by same, 9 cs.
Kaufmann & Co., Trave, Bremen, 2 cs.
F. J. Emmerich & Son, by same, 9 bs. hangings.
R. F. Downing & Co., by same, 3 cs.
B. & O. Meyer, City of Richmond, Liverpool, 12 bs.
F. J. Emmerich & Son, Leerdam, Amsterdam, 1 cs. hangings.
G. J. Kraft, Europa, Hamburg, 3 cs.
E. & H. T. Anthony & Co., by same, 14 cs.
Willy Wallach, by same, 17 cs.
Keuffel & Esser, by same, 24 cs.
G. Gennert, by same, 6 cs.
Eimer & Amend, by same, 1 cs.
F. J. Emmerich & Son, Baltic, Liverpool, 3 cs. hangings.
J. P. Smyth & Co., La Bretagne, Havre, 1 cs.
Freeman & Gillies, by same, Havre, 3 cs.
Walmsley & Co., by same, 1 cs.
W. Warwick & Son, Servia, Liverpool, 2 cs.

EXPORTS of Paper, &c., from New York for the Week Ended June 14, 1887.

BOOKS, cases, to Liverpool, 12; to United States of Colombia, 8; to Havre, 1; to Japan, 12; to Central America, 11; to British West Indies, 5; to Cuba, 1; to Hamburg, 8; to San Domingo, 1; to Bremen, 8; to British Australasia, 10; to Barcelona, 1; to Dutch West Indies, 2; to London, 6; to Mexico, 1; to New Zealand, 1; to Nova Scotia, 3; to Venezuela, 1.

PAPER, to British West Indies, 1,579 rms., 26 pkgs.; to United States of Colombia, 95 pkgs.; to Central America, 24 cs.; to Cuba, 11,500 rms.; to Porto Rico, 1,600 rms.; to Argentine Republic, 13 pkgs.; to Hamburg, 46 cs.; to London, 88 kpgs.; to Ecuador, 7 pkg.; to Hayti, 3 pkgs.; to Mexico, 91 pkgs., 3,900 rms.; to Altona, 1 cs.; to Brazil, 1,300 rms., 251 pkgs.; to Bremen, 2 cs.; to British Possessions in Africa, 1 cs.; to British Australasia, 2 cs.; to Chili, 26 pkgs.; to Dutch West Indies, 6 pkgs.; to New Zealand, 26 cs.; to San Domingo, 6 pkgs.; to Smyrna, 1 cs.; to Venezuela, 12 pkgs.

STATIONERY, cases, to London, 43; to Hamburg, 9; to Liverpool, 63; to Cuba, 24; to United States of Colombia, 46; to Central America, 11; to San Domingo, 3; to Venezuela, 6; to Newfoundland, 10; to British West Indies, 21; to Chili, 16; to Dublin, 1; to Dutch West Indies, 3; to Ecuador, 1; to Havre, 6; to Leipsic, 2; to Mexico, 15; to Nova Scotia, 8; to Peru, 2; to Santander, 2.

AGGREGATES AND VALUES.

Paper, reams..	10,187	$3,249
Paper, pkgs.....	526	6,767
Paper, cases....	289	7,825
Books, cases.....	92	7,094
Rosin, bbls.....	3,522	9,123
Stationery, cases	369	17,827
Totals.....	23,985	$53,885

Exports General Merchandise for the week ended June 14, 1887..... $6,854,840

BOSTON IMPORTS.

FROM JUNE 9 TO JUNE 13, 1887, INCLUSIVE.

Hooks.

Carl Schoenhof, Scythia, Liverpool, 1 cs.
Estes & Lauriat, by same, 2 cs.
J. Farley & Son, Bulgarian, Liverpool, 2 cs.

Paper, &c.

A. H. Roffe & Co., Scythia, Liverpool, 7 bs. periodicals.
Dennison Manufacturing Company, Norseman, Liverpool, 10 cs. wrapping, 23 bs. tissue paper.

Paper Stock.

S. W. Wilder, Bulgarian, Liverpool, 157 bs. paper waste.
Train, Smith & Co., Prussian, Glasgow, 121 bs. paper stock.
Horace Dutton, by same, 60 bs. paper waste.
Order, by same, 52 bs. paper waste.
Train, Smith & Co., Norseman, Liverpool, 194 bs. rags, 476 bs. paper stock, 86 coils old rope.
Horace Dutton, by same, 81 bs. paper waste.
C. A. Cheney, by same, 99 bs. rags, 292 bs. manillas, 267 bs. cotton waste.
Stephen Lee, by same, 7 bs. paper stock.
Train, Smith & Co., Stockholm City, 39 bs. rags, 100 coils rope, 734 bs. paper stock.
Stephen Lee, by same, 255 bs. paper waste.
Horace Dutton, by same, 129 bs. rags, 62 bs. paper waste.
T. F. Ring, by same, 31 bs. rope.
S. W. Wilder, by same, 31 bs. paper waste.
S. D. Warren & Co., by same, 207 bs. rags.
M. A. Ring & Sons, by same, 121 bs. paper stock.

Bleaching Powders.

Warren & Co., Norseman, Liverpool, 83 cks.
Linder & Meyer, Bulgarian, Liverpool, 87 cks.
Mason, Chapin & Co., by same, 553 cks.
E. & F. King & Co., by same, 83 cks.
Wing & Evans, by same, 90 cks.
Morey & Co., by same, 174 cks.

Caustic Soda.

Warren & Co., Norseman, Liverpool, 300 drums.

Soda Ash.

Warren & Co., Norseman, Liverpool, 70 cks.
J. L. & D. S. Riker, by same, 81 cks.
E. & F. King & Co., Bulgarian, Liverpool, 334 cks.
Linder & Meyer, by same, 251 cks.

Soda Crystals.

E. & F. King & Co., Bulgarian, Liverpool, 400 kegs.

Alkali.

J. L. & D. S. Riker, Scythia, Liverpool, 83 cks.

China Clay.

Hammill & Gillespie, Bulgarian, Liverpool, 350 cks.

Sizing.

Warren & Co., Norseman, Liverpool, 115 bags.
W. A. Castle, by same, 83 bags.
C. A. Cheney, by same, 123 bs.
Order, Fred E. Richards, Rosario, 25 bs.

Rosin.

Order, City of Macon, Savannah, 936 bbls.

PHILADELPHIA IMPORTS.

FOR THE WEEK ENDED JUNE 11.

Paper Stock.

Jessup & Moore Paper Company, Maryland, London, 49 bs. rags.
Order, by same, 60 bs. papers.
Perkins, Goodwin & Co., by same, 175 bs. rags.
German Bank of London, by same, 135 bs. waste papers.

Chemicals, &c.

Dunn Brothers, Onward, Fowey, 49 bags china clay.
E. Hill, Son & Co., Gardenia, Newcastle, 500 cks. soda crystals.
Ferguson Brothers, by same, 340 cks. soda ash, 833 cks. soda crystal, 49 cks. bleach.
Joseph I. Keefe, by same, 795 cks. sal soda, 448 kegs sal soda.
John Lucas & Co., by same, 200 cks. venetian red.
E. Varnall & Co., by same, 197 cks. soda ash and caustic soda.
Powers & Wightman, by same, 20 drums caustic soda.

TRAIN, SMITH & CO.,
IMPORTERS OF AND DEALERS IN
— ALL DESCRIPTIONS OF —
Paper Makers' Supplies,
24 FEDERAL STREET, BOSTON.
BRANCH OFFICES: 36 BEEKMAN STREET, NEW YORK. 21 ST. MARY AXE, E. C., LONDON. EDMUND ST. CHAMBERS, LIVERPOOL.

BARLOW & CO.,
WHOLESALE DEALERS IN AND PACKERS OF
Woolen Rags and Paper-Makers' Supplies,
237 and 239 South Street, and 66 and 68 Utica Street,
BOSTON, MASS.
WOOLEN RAGS GRADED IN COLORS AND QUALITY.

ROZÉS BROTHERS,
— PACKERS AND SHIPPERS OF —
RAGS AND PAPER STOCK
OF EVERY DESCRIPTION,
Agen (France).
NEW YORK OFFICE: TRIBUNE BUILDING.

THOMAS F. RING,
— IMPORTER OF —
Paper Stock, Jute, Hemp,
FLAX AND COTTON WASTES,
No. 141 FRANKLIN STREET, cor. Federal Street, BOSTON.
CORRESPONDENCE SOLICITED.

THE ALBANY ANILINE COMPANY,
— MANUFACTURERS OF —
Colors for Paper Makers' Use,
PAPER BLUE, Magenta, Yellow, Orange, Nigrosene, &c.
Address P. O. Box 35. ALBANY, N. Y.

F. BREDT & CO.,
No. 194 Fulton Street, SOLE AGENTS FOR New York City, U. S. A
JOSEPH PORRITT & SONS'
TRADE-MARK. ENGLISH FELTINGS.
SOLE IMPORTERS OF
MARINE BLUE (Aniline) for Newspaper Mills.
Jacketing, Roll Cloth, Double Extra Canvass, Ultramarine Blue.

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"RECORDS THE PRESSURE DAY & NIGHT ON OUR MAINS AND ON OUR BOILERS"
SHOULD NOT KNOW HOW TO GET ALONG WITHOUT IT.
INDISPENSABLE TO INTELLIGENT MANAGEMENT

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— IMPORTERS OF —
L.A.S. X L.A.S. XX L.A.S. UNXLD
English China Clay.
L. A. S. AND L.A.S.
SILESIAN WHITE.

The Paper Trade Journal

DEVOTED EXCLUSIVELY TO THE INTERESTS OF

The American Paper Trade.

Weekly, $4.00 per Annum.

Single Copies, . . . 10 Cents.

NEW YORK: SATURDAY, JUNE 18, 1887.

THE PAPER TRADE JOURNAL is the recognized organ of the various Paper Makers' Associations of the United States.

THE JOURNAL contains the latest and fullest information relative to the paper trade in all parts of the world, including descriptions of new appliances and processes for making paper, experiments with new fibres and other materials, a record of the water supply, with the latest manufacturing news in all parts of the country. It gives the cream of all the foreign technical journals which relate to the paper interest, besides communications from competent persons in the trade, both at home and abroad. The market review and quotations show the state of trade in all the principal cities, and no pains have been spared to make these accurate and complete.

Advertisements cannot be received for insertion in the current week later than 9 A. M. on Friday. The charge for advertising is 25 cents a line, each insertion. Special terms for standing and displayed advertisements to be had on application. Card in Directory Column and one copy of paper, $15 a year.

Subscription and postage for Great Britain..... £1
Subscription and postage for France, per annum..... 25 francs
Subscription and postage for Germany, per annum..... 24 reichsmark
Foreign subscribers may address our New York office.

Payment for subscriptions or advertising may be made by express money-order, draft, post-office order or registered letter.

Communications on matters of interest to the trade are earnestly solicited from all quarters, and if used will be liberally paid for. Items of news and facts of all kinds in relation to the state of the mills, &c., will be gladly received.

All communications must be addressed to

HOWARD LOCKWOOD & CO.,
Publishers,
126 and 128 Duane Street, N. Y.

CABLE ADDRESS: Catchow, New York.

BRANCH OFFICES.

Western Office—W. A. CARROLL, General Manager, 114 LA SALLE ST., CHICAGO, ILL.

Boston Office—A. L. DELESDERNIER, General Manager, 230 DEVONSHIRE ST., BOSTON, MASS.

Southern Office—F. G. HANCOCK, General Manager, CORNER BROAD AND ALABAMA STS., ATLANTA, GA.

FOREIGN GENERAL AGENTS.

M. P. McCoy	Subscription Agent for the United Kingdom, 7 Water Lane, Ludgate Circus, London.
Elfwing & Co.	Stockholm, Sweden.
John L. Sprague	Gibraltar, Spain.
Leonardo Pardo	Vigo, Spain.
C. Galvagno	Turin, Italy.
S. Bernard	Venice and Florence, Italy.
W. & P. Shepherd	Leghorn and Genoa, Italy.
J. H. de Bussy	Amsterdam, Holland and the Dutch East Indies.
Gordon & Gotch	Melbourne and Sydney Australia.
R. T. Wheeler	Dunedin, New Zealand.
W. Snelling	Brisbane, Queensland.
A. G. Webster	Hobart Town, Tasmania.
Knight & Co.	Newchwang, China.
I. D. Clark	Shanghai, China.
Sargent, Farsari & Co.	Yokohama, Japan.
Camilo Garcia	Puntas Arenas, Costa Rica.
Caine y Carricaburu	Havana, Cuba.
Seymour Keeler	Valdivia, Chili.
José A. Barros	Barranquilla, Colombia.
Carl Th. Bergmann	Copenhagen, Denmark
Edward Grauert	Montevideo, Uruguay.
Bethencourt e hijos	Curaçoa, W. I.
J. O. Ryder	Tamatave, Madagascar.
I. J. Conen de Lissa	Port Louis, Mauritius.
Joaquin G. Castilla	Tampico, Mexico.
G. C. Cato	Durban, Natal.
Thomas G. Thrum	Honolulu, Sandwich Islands.
John G. Clark	Kingston, Canada.
Henry W. Hughes	New Westminster, British Columbia.

TO CORRESPONDENTS.

As THE PAPER TRADE JOURNAL is the recognized vehicle of communication in matters of trade interest, we will be glad to receive correspondence from all parts of the country. Information and suggestion upon paper-making topics are especially valuable, and manufacturing news and personal items are equally acceptable.

Readers of this paper who avail themselves of the information obtained from its columns, by advertisement or otherwise, are requested to notify their correspondents of the source of their information.

Subscribers to THE JOURNAL can be supplied with the best cloth binder in the market. Deliverable at the publication office. Price $1.25.

THE subject of illustration on the front page of THE JOURNAL this week is a new automatic guide for felts and wires, which is said to be efficient in operation. We submit it to the scrutiny and judgment of the practical men in the trade.

BLEACHING fibres by the aid of electricity has been announced as a discovery of importance, and not long ago we gave an account of what it was claimed had been and could be done in this line; but in a recent issue of a German contemporary we find this alleged principle the subject of dispute, and in another column we give a translation of a communication from Dr. Würster on the subject. Maybe some of our American chemists can add their opinions and contribute to the discussion.

SOME weeks ago we directed attention to two or three points of trade interest which are to be brought to the consideration of the paper manufacturers at the annual meeting of the association, and we wish now to suggest the desirability of investigating the changes which are being effected in the different processes for supplying paper-making material. Indeed it would, we think, be of advantage to those who can spare the time and make the effort, after the fatigue of Saratoga, to visit the mills where the new processes are being conducted and where they may be notified of a welcome. We do not think that such investigation will be misdirected, but that it will become enjoyable and profitable. Why cannot the paper makers take a tour of the kind suggested?

NEW mills are going up or are being projected on almost every side, and a craze for paper making seems to have set in. The discovery of natural gas in certain portions of the West has helped to increase the impetus in that section, while the numerous water-powers at the East not yet utilized for paper manufacture are claiming their share of interest. But where will this all end? We have reported, on the authority of the standard directory of the trade, an increase of twelve mills in the aggregate during the past year, notwithstanding the elision of more than forty, and at the rate now indicated this exhibit will be surpassed in another twelvemonth. The strength and prosperity of the industry must be remarkable if we are to form an estimate from the confidence with which people engage in it. There must be some weak ones, and there will be accidents which will reduce the number, but the increase at the present rate promises a surprise.

AN account of the details of the Mitscherlich process for the manufacture of fibre, as put into practical operation at one of our Western mills, is given in another column. It will, we are sure, be received with interest by our readers. There seems to be no doubt of the success achieved, and the fact that several mills are to be developed as the fruit of this experiment shows that the process has taken substantial hold. We have seen specimens of the product, and have been impressed not only with the fibre, but with the simplicity and economy of production, the last fact being gathered from figures which are vouched for as being correct and which, we are told, can be guaranteed. We do not say that equally good results cannot be obtained by other processes, although that above alluded to has features which seem to overcome difficulties which have been encountered in other instances. The development of the manufacture of wood fibre by the bisulphite processes foreshadows changes which are likely to prove influential on the paper-making industry of the country.

COMMERCIAL union with Canada is one of the projects to which public attention is likely to be more closely directed in the not remote future. Whether this can be attained remains to be seen. A system of reciprocity such as we have had in the past would be obnoxious, and it is questionable if the Dominion authorities will be likely to favor any kind of trade intercourse, free of restrictions, which will not be shaped chiefly, if not altogether, to their own interest and adverse to ours. Mr. Butterworth's plan, however, proposes the obliteration of the custom-house line, with an assimilation of import duties and internal revenue taxes, making Canada, in fact, so far as her relations to other countries are involved, practically one of the United States. What do our Canadian friends think of this proposition? We know that there are some who would not be adverse to joining the Union, and this proposition is certainly in the nature of a domestic as well as commercial alliance. Only lately a number of Canadian manufacturers succeeded in securing an advance in the duties on paper, and now they are asked to agree to a free interchange of products. Will they assent if the paper manufacturers on this side of the line signify their acquiescence? We should really like to be informed on this subject. Our trade with Canada is large, only a few millions of dollars' worth less than that with all of the Latin countries beyond our Southern border, although the difference in population is in favor of the latter as forty-five to five. Some late statistics of the trade between Canada and the United States may prove useful to those who may be tempted to consider and mentally discuss this commercial proposition. These are as follows: The value of all merchandise imported from the Dominion of Canada for the fiscal year ending June 30, 1886, was $37,314,636, of which $12,005,533 worth were free of duty and $25,309,103 were dutiable. Of the free goods imported eggs were of the greatest value, costing $1,893,672, and of dutiable goods barley stood first, with a value of $7,175,397, and sawed lumber next, with the value of $6,381,571. The exports to Canada during the same period amounted to $44,858,039, of which amount $15,198,163 worth were free of duty and $29,659,876 worth were dutiable. The Canadian Government collected on these American goods duties amounting to $6,769,354.69. These figures are taken from one Canadian account, while another shows that exports of merchandise to Canada amounted to $48,451,011, and the United States account makes the amount only $33,462,800. The statement is sufficient, however, to show how mutually dependent we are, and therefore the question may again be asked: Shall we have commercial union?

Watermarks.

BY DANDY.

Water-marks! Well, I should say so. There's plenty of them outside, for the rain is coming down in great long streaks. But they are not the kind that the compositor puts in type, so they're of no present service to me.

Some people are never contented to let well enough alone. A new process for making chemical pulp is to be brought to the front, and if other people do not like it they can let it alone.

But the question is whether they will do so. What will any paper maker do if he has a man come to him and tell him that he proposes one of these days to make chemical wood fibre at a cent a pound, this figure to include interest on capital and all sorts of things which enter into the consideration of cost.

Wouldn't they think that such a man was possessed of considerable "gall," and wouldn't rags be way down if he did it? Well, yes, and yet he told me that he would show it some day. Ah, yes! "Some day." Shall I say "Rats?"

But now comes another who proposes to work with alkalies and use a solution so weak that he will throw the waste liquor away as being of "no account." Says he doesn't want to recover the soda ash and all that sort of thing.

Still another is going to use soda ash and get every grain of it back. Verily, this is a day of great promise. May we live to see its performance. How long may we wait?

My! But aren't the mills going up. Nobody nowadays is afraid of being "hanged" because he is a paper maker. On the contrary, they don't seem to mind it.

I met Mr. Arnold, of the Eynsford Mill, Kent, England, to-day. He has come over to look about him. I hope that our paper manufacturers will take him around and show him how we do things here. He is one who holds to the old-time hand-made papers. He has a three-vat mill, and prides himself upon his product. And he has reason to.

When he gets through with looking about I shall ask him what he thinks, and maybe he'll tell me, and then perhaps I shall tell you.

A paper-stock genius has invented an electric chair, which is intended for the special use of paper makers. When the paper maker, after talking over prices, &c., rises to go a powerful magnet pulls him down into the chair again, and when he asks the why of the wherefore, the stock man says, "I want an order." If the p. m. says the price is too high, all out of reason, &c., he gets a heavy shock, which is a reminder to him that he should not talk in any such strain.

That's the kind of a machine that would become popular.

I hear of a sailing and fishing party which some of the young men in the paper-stock trade are organizing and which is scheduled as a very fine affair. If anyone wants to know more about it, they can find out by sending to me, care of the editor of the P. T. J.

The emigration of paper and paper-stock men continues, and next week quite a large party, mainly representatives of Holyoke, will start on a trip across the ferry.

The annual meeting at Saratoga begins to be a topic of discussion, and this year it will be of more than usual interest. There should be a large meeting and everyone should come prepared to add something to the interest, not to say hilarity, of the occasion.

Trade Talks.

D. T. Mills, of Stout, Mills & Temple, Dayton, Ohio.—Business with us has been very good. I have visited a large number of paper mills and I find them busy. Prices are low, they say, and while it is said that the business is not profitable, yet they are making improvements all the time. Well, they are forced to it in order to keep up with the times. I know of one manufacturer who recently built a new mill, equipping it with modern machinery. When it was completed he was ashamed of the old one and had to go to work at that, overhauling it and replacing his old works with new ones.

Joseph Arnold, Eynsford Mills, Kent, England.—I only arrived in the city on Thursday afternoon, making my first visit to America. I was at once impressed with the difference in the characteristics, not only of the city, but of the people. The buildings, large and architecturally uniform, are different from those of other cities with which I am familiar, and the business air of the whole people, together with their independence and social equality, is very striking. I did not enjoy the trip for the reason that the constant tremor of the vessel was uncomfortable, although the City of Rome is one of the largest steamships in the Atlantic service. I got my first comfortable dinner last evening at the Windsor Hotel, where I am putting up, and was much amused to find the waiter enter freely with me into a political discussion. He asked my opinion of Home Rule and we had quite an argument, but I fear without satisfactory results to the gentleman who served me. I told him that Ireland was scarcely prepared to govern herself, having no experience, and asked him whether or not he and the other gentlemen whom I saw waiting on the table would feel themselves capable of taking hold of that splendid hotel and managing it. He replied that he thought yes. I propose to stay a short time, enjoy myself and hope to see much more of the country.

Changes, Removals and New Firms.

F. M. Lewis, printer, Cleveland, Ohio, has sold out.

Arthur Howes, printer, Dover, N. H., has sold out.

G. M. Reed, publisher, West Salem, Wis., has sold out.

E. V. Newton, publisher, Fort Madison, Ia., has sold out.

John H. Dunlap, newsdealer, &c., Toronto, Ont., has sold out.

T. G. McRaven, publisher, Harrisburg, Ark., has sold out.

John M. Selkirk, bookseller, &c., Leamington, Ont., has sold out.

M. A. Barnett, publisher of the *Herald*, Madison, Ind., has sold out.

The *Tribune* Publishing Company, Goldendale, Wash. Ter., has sold out.

Williams & Brain, bookbinders, Columbus, Ohio, have dissolved partnership.

J. O. Blakeley & Co., publishers, Visalia, Cal., have dissolved partnership.

W. P. McFarland, stationer and newsdealer, Chicopee Falls, Mass., has sold out.

C. J. Hubbs & Co., publishers of the *Citizen*, Albuquerque, N. M., have sold out.

The Co-operative Printing and Publishing Company, Seattle, Wash. Ter., has sold out.

The Heliotype Printing Company, publisher, &c., Boston, Mass., has been dissolved.

L. G. Allen, bookseller, stationer, &c., San Bernardino, Cal., is advertising his business for sale.

W. A. Hosey, stationer, &c., Oil City, Pa., has associated W. J. Anderson with him in business.

C. W. Moulton & Co., Buffalo, N. Y., have succeeded C. L. Sherrill & Co. as publishers of *Queries*.

H. C. Eaton & Co., booksellers and stationers, Gunnison, Col., have been succeeded by H. C. Peaslee & Co.

W. H. Marigold, printer, Bridgeport, Conn., has been succeeded by the Marigold Printing Company, a corporation.

The Maritime Chemical Pulp Company, Chatham, N. B., Canada, is organized with John Stuart as president; A. B. Lee, vice-president; John A. Fisher, managing director, and A. A. Anderson, treasurer.

C. O. & P. J. Cole, paper manufacturers, Newburg, N. Y., have dissolved partnership, and have been succeeded by Henry K. and William M. Thompson, under the firm-name of Thompson Brothers.

Buchanan, Bolt & Co., wire weavers, Holyoke, Mass., have dissolved partnership, J. N. Brown retiring. Robert Buchanan, John Bolt and Andrew Buchanan will carry on the business under the same firm-style.

Louis Sneider's Sons, paper manufacturers and dealers, Cincinnati, Ohio, have formed a corporation under the laws of Ohio, and are succeeded by the Louis Sneider's Sons Company, with Henry J. Sneider, president and treasurer; Louis P. Sneider, vice-president; Edward J. Sneider, secretary. The directors of the company are Louis P. Sneider, Henry J. Sneider, Wm. Pfau, Edward J. Sneider, Lou. A. Pfau.

Failures.

A meeting of the creditors of C. A. Heyer & Son, printers, Boston, Mass., has been called.

J. R. Eddins, dealer in stationery, pianos, &c., Charlotte, N. C., has made an assignment. He has been in business about ten years.

Fires.

Fire broke out in Taylor Brothers' paper-box factory, Springfield, Mass., on June 10. The damage is mostly by water. The losses are as follows: Taylor Brothers, loss $5,000, insured for $4,500; Wells & Rafter, printers, loss $3,000, insurance $4,000; Breck Brothers, rubber goods, loss $4,000, insured.

In Town.

Charles Campbell, Short Hills, N. J.; John A. Hall and E. R. Solliday, Lambertville, N. J.; T. S. Safford, Camden, N. J.; Walter Moorhouse, Philadelphia, Pa.; C. S. Mayo, Lawrence, Mass.; William Chamberlain, Dalton, Mass.; Charles Mullen, Mount Holly Springs, Pa.; J. M. Symington, Lancaster, Pa.; L. Richards, Unionville, Conn.

Personals.

Cyrus Currier, Jr., of Newark, N. J., was in the city during the week.

A. Cohen, paper-stock packer, London, England, arrived here on the Servia last Monday.

Henry Atterbury, of Atterbury Brothers, will sail for Europe to-day on the steamer City of Richmond.

D. T. Mills, of the firm of Stout, Mills & Temple, Dayton, Ohio, has been making a trip East, and was in New York during the week.

Joseph Arnold, of the Eynsford Mills, Eynsford, Kent, England, arrived by the City of Rome on Thursday, making his first visit to this country.

John C. Richard, manager of the stationery department of the American News Company, returned from Europe by the steamer Fulda on the 14th inst.

C. Cooper Clark, president of the Clark-Neergaard Company and Salmon River Paper Company, has just returned from Malone, whither he went to award contracts for a 200 horse-power steam-engine, boiler, &c., and to arrange for the erection of a new pulp mill this summer.

Obituary.

SINCLAIR TOUSEY.

Sinclair Tousey, the well-known publisher, died at his residence, No. 14 East Forty-sixth street, New York, at noon Thursday. He had been sick a year. He was born in New Haven, Conn., July 18, 1815, and was very early in life thrown upon his own resources. A third of a century ago he engaged in the business of wholesale newsagent and bookseller. Eleven years later, in 1864, the American News Company was organized. Mr. Tousey became the first president of the company, and has ever since retained that office. He was an early anti-slavery man, joining the Republican party when that organization came into existence. He enjoyed the friendship of Gerrit Smith, Horace Greeley and other prominent anti-slavery men. He was a member of the Union League Club, vice-president of the Hahnemann Hospital, a member of the Society for the Prevention of Cruelty to Animals and of the Society for the Prevention of Cruelty to Children. He was for many years connected with the Prison Association, and devoted a large part of his time to this work. Mr. Tousey leaves a widow and four sons.

C. S. McCormick, printer, Niles, Ohio, is dead.

William Wallace, of the firm of W. W. Brier & Son, booksellers, &c., San Francisco, Cal., is dead.

The foreman in the press-room of a large printing establishment, in Dortmund, Germany, has invented a very simple but ingenious apparatus for feeding envelopes, six at a time. The envelopes, of equal or different sizes, arranged in boxes, are constantly moved forward automatically, only a boy being required to keep the boxes filled and move them forward occasionally. It is stated that the apparatus works very satisfactorily, printing 8,000 envelopes in an hour by feeding. It can be attached to any kind of printing or lithographic steam-press.

Printing-Surfaces

The relative values of papers for printing purposes cannot be determined by roughness or smoothness, which qualities are for the most part in amateur art circles a mere matter of fashion. The rough half-bleached but honest linen papers in the books of the early Flemish and German printers were not esteemed in their own time. The book-buyers of the fifteenth century judged them vastly inferior to the smooth vellum of old manuscript books, and buyers of this day prefer the smoother paper of the old Venetian printers, and the missals and devotional works of the French printer of that age. At the end of the last century the Whatman mill was making excellent paper, but there were English bibliophiles who went to Bodoni, of Italy, to get smooth paper and printing, which they thought could not be had in England. The papers in the books of Baskerville, as well as in those of Dibdin and the Roxburghe Club, are below the standard of roughness now in fashion. When roughness was common smoothness was preferred, but now, smooth papers being common enough, rough paper is again the thing, and without it, in the eyes of a few, no printing is considered possessed of the highest artistic effect, for which idea price, that standard of excellence in the many, is the sole argument that can be advanced. A spotty and cloudy Japan paper is of more value than the rough hand-made linen; the wriggling vellum, too often greasily smooth, is highest of all.

The desire to possess what few can get, and not the appreciation of the Ruskin standard of true artistic merit, usefulness and beauty, is the incentive which makes a buyer at one time prefer and at another reject smooth papers.

Hand-made papers are so costly as to practically throw them out of the question where printing is concerned. Rough-faced or plain-surfaced machine-made papers can be used for plain typework with advantage, but not where wood-cuts are to appear. A print on sail-cloth must be coarser than one on satin, and a print on rough paper cannot show the fine lines of relief engraving as well as a print on smooth paper. Seen through a magnifying glass, rough or plain paper has a surface on either side made up of fuzzy elevations and depressions not unlike that of cotton cloth, but on a smaller scale. It is not a truly flat surface. But every wood-cut is as flat and smooth as skill can make it. A light impression, therefore, allows the elevations of the paper only to touch the cut. This makes broken lines and spotty blacks, detested of the engraver and of the connoisseur who knows anything of the art. Full impression presses these elevations around the lines, jams the paper into the cut, thickens light lines, chokes white ones and unevens color everywhere.

To produce the best results the paper must be adapted to the process which it is to undergo. The etching is printed from lines sunk below the surface of a copper plate; the wood-cut from lines raised above it. The ink which makes the print in the former is confined in little ditches or grooves, from which it cannot escape under extreme pressure; but the wood cut is covered with a thin film of ink placed carefully over the surface of the cut, and this will spread or get thick if excessive pressure be employed. The best results in printing are to be obtained from dry, smooth paper, not because it is luxurious, but because a greater breadth, beauty and variety of printing can be obtained than in the use of any others. The printer does not seek the gloss, but he knows that he cannot get all the good qualities combined in any one fabric, but if he could get smoothness without it he would hail the invention with delight.

The *Guide Scientifique* describes the following method of making artificial whetstones: Gelatine of good quality is dissolved in its own weight of water, the operation being conducted in a dark room. To the solution 1½ per cent. of bichromate of potash is added, which has previously been dissolved in a little water. A quantity of very fine emery, equal to nine times the weight of the gelatine, is intimately mixed with the gelatine solution. Pulverized flint may be substituted for emery. The mass is molded into any desired shape and is then consolidated by heavy pressure. It is dried by exposure to strong sunlight for several hours.

The buyers' "vade mecum," "Lockwood's Directory of the Paper and Stationery Trades," for 1887, just out. Price, $2.

SPECIAL NOTICES.

[Insertions under this heading will be charged 50 cents a line. Payment invariably in advance.]

P. HART & CO.,
WHOLESALE DEALERS AND PACKERS OF
Rags, Paper Stock, Metals and Rubber,
134 AND 136 JANE STREET NEW YORK.

THOS. BUTLER & CO.,
Rags, Paper Stock, Old Metals, Rubber,
249-253 CAUSEWAY ST., BOSTON, MASS.

CARPENTER & BARTLETT,
Cotton and Woolen Rags, Paper Stock, Old Metals and Rubber,
No. 190 FRONT STREET, HARTFORD, CONN.

JAMES SAVAGE, JR.,
Rags, Paper Stock, Rubber, &c., &c.,
530 TO 536 WEST 38TH ST., NEW YORK.

MORE & IRVINE,
Rags, Paper Stock, Rubber, &c., &c.,
140 BAXTER STREET, NEW YORK.

PATRICK GARVIN,
Manufacturer and Dealer in Paper and Paper Stock. All grades of Mill Stock specially assorted. All grades of paper made to order.
207 STATE STREET, HARTFORD, CONN.

P. J. McARDLE,
Established 1864. } [Successor to GRAVES & BROWN.
Dealer in Paper Stock, Rubber, Cotton and Woolen Rags, Pig and Scrap Iron and other Metals.
CORNER OF CHURCH AND ARCH STS., ALBANY, N.Y.

EUGENE SULLIVAN,
Packer of Rags and Paper Stock,
356 & 358 WATER STREET, NEW YORK.

Market Review.

OFFICE OF THE PAPER TRADE JOURNAL,
FRIDAY, JUNE 17, 1887.

THE MONEY MARKET.—There has been an improvement in the stock market, and prices generally closed at an advance. The common rate for call loans on the local money market was 5 per cent. Mercantile paper was quoted as follows:

	Sixty days.	Four months.
Double-named—		
First-class	5 @ 5½	5 @ 5½
Good	5½@ 6	5½@ 6
Single-named—		
First-class	5½@ 6	5½@ 6
Good	7 @ 8	7 @ 8
Not so well known	8 @ 9	8 @ 9

The market for sterling was weak, owing to the offerings of bills drawn against produce exports and securities. There was also a considerable supply of bills against sterling loans. Rates are approaching the gold-importing point, but at the decline there was less pressure to sell. Posted rates closed at $4.85 for sixty-days' and $4.86½ for demand. Rates for actual business were as follows: Sixty days' sight, $4.84@4.84½; demand, $4.85½@4.86; cables, $4.86@4.86½; commercial $4.82¼@4.82¾. Continental bills were quiet, and quoted as follows: Francs, 5.21⅞ and 5.19⅜; reichsmarks, 95@95¼ and 95⅜@95⅝; guilders, 40⅛ and 40⅜. Government bonds were very quiet and steady. Railroad bonds improved in price in sympathy with stocks.

THE PAPER TRADE.—Business in the paper market is not at all disturbed by any important events—other than perhaps the awarding of the contracts from the government departments—and, as a rule, matters progress in a very uneventful way. Mills are busy, the local trade is of a moderate volume and prices are unchanged. That sums up the situation, and beyond that there is nothing in the way of special feature to be recorded. Strawboards are moving at full prices, while Straw Wrappings are active but low. Writings, Book and News are moving freely from first hands. Prices are steady and are unchanged.

JUTE BUTTS.—The market is quiet, but firm. There have been small sales of paper quality on spot at 1¾c., and 2,000 bs. to arrive at 1 90-100c. Calcutta advices by cable quote higher prices there. We quote on spot: Paper and mixing quality, 1⅞c.; bagging, 2⅛ @2 3-16c.

WOOD PULP.—Ground Wood is moving in a free way at prices which are steady. We quote: Poplar, 1⅝@1¾c., and Spruce, 1¾ @2c., delivered. Foreign grades are quoted ex-dock: 50 per cent. Wet at 1.45c.; Dry, 1¾c., and Brown Boiled, 1⅝@1¾c. Imports for the week aggregated 7,174 bales, being 46 bs. from Amsterdam, 50 bs. from Antwerp, 2,664 bs. from Hull, and 4,414 bs. from Stettin.

WOOD FIBRE.—The demand for Chemical Fibre keeps up in good shape, but the market is without special features. Association prices are still 4¾c. for Bleached and 3¼c. for Unbleached, although these prices are shaded by outside makers. Foreign grades are quoted: Unbleached Pine, soda process, 3@3.40c.; Bleached, same process, 3⅜@ 4¼c.; Unbleached, sulphite process, 3⅜@4c., and Bleached, 4⅛@6¼c.; Bleached Straw Pulp, 4¾@5¼c.

FOREIGN RAGS AND PAPER STOCK.—The foreign rag and paper stock market continues to rule dull and inquiries for stock are light and unimportant. Foreign markets are relatively firmer and this fact acts as a check to business, while consumers here do not show any disposition to make large purchases. Prices are no higher and in the present condition of things buyers are favored so far as rags are concerned. Imports for the week aggregated 14,489 bales, including 9,719 bs. rags, 837 bs. old papers, 7,174 bs. wood pulp and 3,759 bs. manillas. Ports of shipment and quantities are: Amsterdam, 46 bs. wood pulp; Antwerp, 14 bs. rags, 50 bs. wood pulp; Bremen, 200 bs. rags, 290 bs. manillas; Bristol, 120 bs. manillas; Dundee, 81 bs. rags, 27 bs. old papers, 1,103 bs. manillas; Hamburg, 160 bs. rags; Hull, 1,254 bs. rags, 2,664 bs. wood pulp, 460 bs. manillas; Leghorn, 495 bs. rags; Leith, 225 bs. old papers; London, 463 bs. rags, 573 bs. old papers; Liverpool, 52 bs. rags, 12 bs. old papers; Stettin, 4,414 bs. wood pulp and 1,786 bs. manillas.

DOMESTIC RAGS.—There is a quiet, steady movement in domestic rags which is taking up the packings very well. Prices are steady and quotations are unchanged.

BAGGING, &c.—The Gunny Bagging market retains its strong position. The spot supply is nothing, arrivals being taken up by deliveries on old contracts. There have been sales at 1.77½c. and 1.81¾c., and the latter price is more generally quoted. Rope and Threads are sold well ahead, and on inquiries for prompt delivery imports are firm. Manilla imports for the week aggregated 3,759 bs., ports of shipment and quantities being: Bremen, 290 bs.; Bristol, 120 bs.; Dundee, 1,103 bs.; Hull, 460 bs.; Stettin, 1,786 bs.

OLD PAPERS.—There is a steady call for Old Papers, but nothing in the way of important transactions. We quote: No. 1 Hard White Shavings, 3½c.; No. 1 Soft White do., 2½c.; Old Ledgers, 2½c.; Solid Printed Books, 1⅝@1⅞c.; Mixed Shavings, 1¾c.; No. 1 Manillas, 1.55c.; Light Book Stock, 1c.; Folded News, 1¼@1.30c.; Commons, 60@65c.; Bogus Manillas, 60@90c.; Strawboard Clippings, 60@65c.; Binders' do., 65c.

STRAW.—Demands are only moderate, and the market is not very strong. We quote: No. 1 Rye at 60c.; short Rye at 45@50c.; Oat at 40@45c.

ROSINS.—Low grades are very regular in price, but are hardly steady otherwise. We quote in lots from the yard: Common to Good Strained, $1.47½@1.52½; E, $1.60; F, $1.70; G, $1.80; H, $1.85; I, $2; K, $2.10; M, $2.30; N, $2.60, and W G, $3@3.05.

CHEMICALS.—The week has been a quiet one in the chemical market and there is little fresh of interest. Bleach is again firmer. The available stock is small and in a few hands, while foreign markets are firm. The inquiry, however, is light. We hear of sales at 1.95c. There is a fairly active demand for Sal Soda and the market is firm and without change. There is a very good demand for high-test Caustic Soda, although inquiries are mostly of a jobbing character. Caustic Soda Ash is in light inquiry, but with spot stock scarce holders are getting a shade better prices. Sales and quotations are: 500 cks. Bleaching Powders, spot and to arrive, at 1.95c.; 300 tons Soda Ash, 48 per cent., spot and to arrive, 1.30c.; 100 tons Sal Soda, spot, at 1c.; 250 bbls. Lump Alum at 1.72½c.; 300 bbls. Ground do. at 1.82½c.; 300 bbls. Pearl Alum, 2¾c.; 700 bbls. Natrona Porous at 2½c.; 20 cks. Brown Sugar of Lead at 5¾c.; 250 drums Caustic Soda, 70 per cent., at 2.50c.; 200 cks. Alkali at 1.15c.; 25 cks. Bichromate of Potash at 10c.; 500 bbls. Keystone Alum at 1¾c.; 20 cks. Yellow Prussiate at 18½c.; 100 bbls. Copperas at 70c.

CHINA CLAY.—There is a moderate request for extra quality for special purposes, but prime and inferior goods continue neglected. Supplies are coming to hand in small steamer lots. The 851 tons which arrived per the Hudson have all been sold at the present market rates. Southern continues in good demand and no surplus stocks are reported on hand.

COAL.—Anthracite quotations at New York ports are:

	Broken.	Egg.	Stove.	Nut.	Pea.
Free-burning White Ash	$3.55	$3.80	$4.15	$4.00	$3.00
Pittston	3.50	3.60	4.05	4.05	2.95
Reading Hard White Ash	3.85	3.95	4.15	3.85	2.75
Honey Brook	4.15	4.15	4.15	4.00	....
Plymouth Red Ash	3.75	3.95	4.50	4.20	....
Franklin Lykens Valley	4.35	5.00	5.35	4.75	....
D. & H. at Weehawken	3.55	3.80	4.15	4.00	2.95

Saward's *Coal Trade Journal* says: "There is said to have been more activity in the Anthracite coal trade during the past week; in all directions there is more inquiry and it does seem that the turn for the better has been made. That is, better so far as activity is concerned, for the movement of tonnage is vastly greater this year than ever. Prices are firmer than they were; the producers are keeping together in such shape that the jobber and dealer has hard work to make any break in prices; there is some, as there has always been, but it does not affect the trade very seriously. Anyone who would take orders for future delivery at current rates could find plenty of business; there are offers of this nature every day in increasing number. Buyers, of course, still bear in mind the experience of past years when there has been a decline, yet we do think that they are gradually coming to the opinion that this year the basis of trade is firmer than last. In the interior and at the Westward there is more doing, but in about a month trade will be in full swing. Chicago report, in a few works, may be put at this: While a great deal of coal is being received there is only a small movement to outside points of use, and this is due to inability to get fixed prices for future deliveries. The statistics week by week show heavy tonnages; this amount is so widely distributed that there is no great pressure upon the market in any particular direction. The line trade in Pennsylvania and New Jersey among the industrial establishments is very large; the receipts at tide are gradually coming to be a less percentage than formerly; the amount of tonnage done direct to many points in the Eastern and Central States is growing, while the Canadian trade and that by lake to all points is of more importance each year."

DIAMONDS.

RANDEL, BAREMORE & BILLINGS,
IMPORTERS AND CUTTERS OF DIAMONDS,
MANUFACTURERS OF DIAMOND JEWELRY,
58 NASSAU ST. AND 29 MAIDEN LANE
NEW YORK.
1 ST. ANDREWS STREET, LONDON

EDWIN BUTTERWORTH & CO.
MANCHESTER, ENGLAND,
PACKERS OF ALL KINDS OF
Paper Stock, Cotton Waste and Buffalo Sizing,
(P) 83 GUNNY BAGGING, &c.
OFFICE IN NEW YORK:
Tract House, 150 Nassau Street, near Tribune Office.
JAMES PIRNIE, Manager.

PERKINS, GOODWIN & CO.,
66 & 68 Duane St.,
NEW YORK.

PRICES CURRENT.

NEW YORK MARKET.

Paper Market.

DEALERS' SELLING PRICES.		
Ledger and Record	$0.18	@0.24
Flat Caps, superfines	16	@ 18
Flat Caps, fines	13	@ 15
Flat Caps, engine-sized	9	@ 11
Blotting, American	10	@ 12
Blotting, English	19	@ 21
Book, super-sized and calendered	7	@ 8½
Book, super-sized and tinted	7	@ 8
Book extra machine finish	7	@ 7¼
Book, machine finish, low grade	6½	@ 7
Book, No. 1, shavings & imperfections	6½	@ 7
News, No. 1	5	@ 5¼
News, 1.4g and wood	4½	@ 5¼
News, straw	5½	@ 5¾
Poster	5¾	@ 6
Hanging, superfine, No. 1	7	@ 8
Hanging, superfine, No. 2	7	@ 7½
Hanging, machine satin	6	@ 6½
Hanging, white blank, No. 1	5½	@ 6
Hanging, curtain	5	@ 5½
Hanging, buff	4	@ —
Hanging, brown	3½	@ 3¾
Colored papers, double mediums	7½	@ 8½
Colored papers, glazed medium	9½	@ 10½
Colored papers, tobacco	8½	@ 9¼
Colored papers, tissues, 20 x 30, ℔ ream	1.10	@ 1.35
Tissues, black, 20 x 30, ℔ ream	1.40	@ 1.90
White tissue, 20 x 30, ℔ ream	85	@ 1.00
White tissue, 24 x 36, ℔ ream	1.30	@ 1.50
Manillas, Flour-sack, cream	10½	@ 12
Manillas, Flour-sack, drab	9½	@ 11
Manillas, Rope, unbleached No. 1	9½	@ 11
Manillas, Rope, unbleached No. 2	7½	@ 9¼
Manillas, No. 1, light weight	7½	@ 8
Manillas, No. 1, heavy weight	6¼	@ 7
Manillas, No. 2	5	@ 6
Manillas, Bogus	2½	@ 3
Wrapping Parchment	26	@ 30
Tissue Manillas, full count, weight and size, 24 x 36, other sizes in proportion	75	@ 80
Hardware, light colored, No. 1	9	@ 10
Hardware, No. 1, glazed, tarred	7	@ 8
Hardware, No. 1, glazed	5	@ 6
Binders' Boards, ℔ ton, No. 1	70.00	@ 90.00
Binders' Boards, ℔ ton, No. 2	40.00	@ 50.00
Straw Boards, air-dried, No. 1, ℔ ton	45.00	@ —
Straw Boards, steam-dried, No. 1, ℔ ton	42.50	@ —
Straw Boards, steam-dried, No. 2, ℔ ton	40.00	@ —
Straw Boards, steam-dried, No. 3, State, ℔ ton	37.50	@ —
Straw Boards, air-dried, Penn, ℔ ton	35.00	@ —
Straw Boards, air-dried, State, ℔ ton	37.50	@ 40.00
Straw Wrapping, basis, 23 x 20, 15½ lbs. 20 sheets—		
36 x 40, from 38 to 42 lbs. ℔ rm.	1.00	@ —
30 x 40, from 30 to 34 lbs. ℔ rm.	—	@ 80
24 x 36, from 24 to 26 lbs. ℔ rm.	70	@ —
22 x 32, from 24 to 26 lbs. ℔ rm.	—	@ 52
20 x 30, from 14 to 17 lbs. ℔ rm.	36	@ 38
16 x 22, from 12 to 13 lbs. ℔ rm.	—	@ 30
18 x 28	30	@ 32
15 x 20, 10 lbs. ℔ rm	—	@ 25
15 x 20, from 7 to 8½ lbs. ℔ rm.	18	@ 19
14 x 18	15	@ 16
12 x 16	—	@ 13
11 x 15	—	@ 12
Straw Wrapping, ℔ lb., heavy weight	1¾	@ 2
Straw Wrapping, ℔ lb., light weight	2	@ 2¼
Cigarette Straw Tissue, per case of 100 boxes, 50 books to the box, 200 sheets to the book	30.00	@ 35.00
Tea Papers, 16-sheet quires—		
12 x 18	21	@ 23
14 x 20	28	@ 30
Card Middles, ground wood	5¾	@ 6¼
Card Middles, long fibre wood	8½	@ 9¾
Card Middles, rag and wood	6	@ 7
Wood Fibre, bleached	3¾	@ —
Wood Fibre, unbleached	3¼	@ —

Woolen Rags.

Comforter Stock	8	@ 9
White Woolens	9	@ 10
Blue Gray Stockings	7	@ 8
White Stockings	15	@ 16
Blue Flannels	6	@ 7
Reds, old	7½	@ 8
Reds, new Shirt Clippings	20	@ 21
Mixed Softs, free of Carpets	6	@ 7
Seamed Cloth	3½	@ 3¾
Skirted Cloth	3	@ 3½
New Cloth Clips	6	@ 6½
New Satinets, clean stock	1½	@ 2
Satinets, old	1	@ 1¾
Seams	1½	@ 1¾
Delaines, stripped for extract	2	@ 2½
Blankets, Woolen	2½	@ 2¾
Wool Carpets	9	@ 9½
Mixed Carpets	1	@ 1¼
White Linseys	3	@ 3¾
Mixed Linseys	1¼	@ —

Shavings and Old Paper.

White Collar Cuttings	2½	@ —
White Envelope Cuttings	3½	@ —
Hard White Shavings, No. 1	3½	@ 3¾
Soft White Shavings, No. 2	—	@ 2¾
Mixed Shavings, part white	1½	@ —
Ledger and Writing	—	@ 2¾
Solid Stock	1½	@ —
Book Stock, No. 1, light	1	@ —
Old Newspapers	1½	@ —
Imperfections	1½	@ —
Colored Papers	2	@ 2¼
Manillas, No. 1	—	@ 1¾
Hardwares, No. 1	¾	@ 1
Bogus Manillas	60	@ 90
Commons	60	@ 65
Binders' Board Cuttings	65	@ —
Straw Board Cuttings	60	@ 65

Rags, Rope and Bagging.

White Shirt Cuttings, No. 1	6¼	@ 6¾
Mill Assorted Whites	5	@ 5¾
Unbleached Muslins	5¼	@ 5¾
City Whites, No. 1	3.90	@ 4
New Seconds, light	3¾	@ 4
New Seconds, dark	3	@ 3¾
No. 2, Whites	1¾	@ 2
Cotton Canvas, No. 1	4	@ 4¼
Linen Canvas, No. 1	4	@ 4¾
Country White Rags	5	@ 5¾
Country Mixed, free of Woolens	1¾	@ 2¾
Seconds (City)	1	@ 1¾
Colors, per 100 lbs	60	@ 70
Manilla Rope	2½	@ 2.80
Manilla Rope, tarred	—	@ 2
Gunny Bagging, No. 1	—	@ 1¾
Gunny Bagging, No. 2	1½	@ 1¾
Burlap Bagging, No. 1	1¾	@ 2
Kentucky Hemp Bagging	3¼	@ —
Tar Shakings	1¾	@ —
Hemp Twine Stock	3	@ 3¾
Jute Waste	2½	@ 3¼

English Rags, &c.

New Cuttings, cotton	5½	@ 5½
London Fines, cotton	3½	@ 4
Outshots, cotton	2½	@ 3
Seconds	1½	@ 1.65
Thirds	1½	@ 1¾
New Print Tabs	2½	@ 3
Checks and Blues	2½	@ 2¾
Light Prints	1¾	@ 2
Light Fustians	2	@ 2¼
Dark Fustians	1½	@ 1¾
Black Calicoes	1½	@ 1¾
First Canvas Linen	3¾	@ 4
Second Canvas Linen	3	@ —
Gunny Bagging, No. 1	1¾	@ 1 13-16
Gunny Bagging, No. 2	1½	@ 1¾
Burlaps Bagging, No. 1	1¾	@ 1.80
Rope, Manilla	2½	@ —
Rope, Manilla, tarred	—	@ 2
Jute Threads	2	@ 2¼
Clean Jute Ropes	2	@ 2½
Mixed Rope	1½	@ 1¾
Flax Tow	1¼	@ 1½

English Old Papers and Shavings.

Hard Shavings, No. 1	3	@ —
Soft Shavings, No. 1	2½	@ 2¾
White and Colored Shavings, No. 1	2½	@ 3
White and Colored Shavings, No. 2	1½	@ —
Cream Post Shavings	2¾	@ 2.81¼
Paper-Collar Cuttings	3¼	@ 3½
Briefs and Letters	2	@ 2¼
Newspapers and Pamphlets, extra	1½	@ —
Old Newspapers	1	@ 1¼
Broken News and Letters	¾	@ 1
Old Blank-Books	2¼	@ 2½
Old Printed Books	2	@ 2¼
White and Buff Railway Sheets	1½	@ 1¾

Hamburg Rags, &c.

N S C, New Shirt Cuttings	5½	@ 5¾
S P F F F, No. 1 Linens	—	@ 4¾
S P F F, No. 2 Linens	—	@ 4½
S P F, No. 3 Linens	—	@ 3¾
F G, No. 4 Linens	2¾	@ 3
F F, No. 5 Linens	2¾	@ 3½
Extra Fine Blue Linen, light color	3	@ 3½
L F B, Blue Linens	2¾	@ 3
Gunny Bagging, No. 1	1.45	@ 1¾
Gunny Bagging, No. 2	1¾	@ —
C S P F F F, No. 1 Cottons	3¾	@ 4
C S P F F, No. 2 Cottons	3¼	@ 3¾
C S P F, No. 3 Cottons	2½	@ 2¾
C C C, Colored Cottons	1½	@ 1¾
C F X, Low grade Cottons	1¾	@ 1¾
Extra Fine Blue Cottons	2¾	@ 3

Russian Rags.

S P F F, No. 1 Linens	4¼	@ 4¾
S P F, No. 2 Linens	3½	@ 3¾
F G, No. 3 Linens	3¼	@ 3¾
F F, No. 4 Linens	3¼	@ —
L F X, No. 5 Linens	2¾	@ —
L F B, Blue Linens	3¼	@ —

Japanese Rags.

Whites, ordinary	—	@ 1¾
Blues, ordinary	—	@ 1¾
Blues, selected	—	@ 1¾

Chemicals, Coloring Materials, &c.

Alkali, 58 ℔ cent	—	@ 1.25
Alum, lump	—	@ 1.72½
Alum, ground	—	@ 1.82½
Alum, Diamond	—	@ 2¾
Alum, pearl	2½	@ —
Alum, porous	2½	@ —
Aluminous Cake	—	@ 1¾
Anti-Chlorine	—	@ 2¾
Bi-Chromate Potash, American	—	@ 10
Bleaching Powders, spot and to arrive	—	@ 1.93
Caustic Soda, 70 ℔ cent	—	@ 2.50
Clay, China, English, ℔ ton	12.50	@16.50
Clay, China, "Star"	12.50	@ —
Clay, South Carolina, ℔ ton	12.00	@13.00
Clay, Terra Alba, French, ℔ ton	70	@ 95
Clay, Terra Alba, American, No. 1	75	@ 80
Corn Starch	—	@ 9¼
Copperas, American	—	@ 70
Extract Logwood	7	@ —
Mineral Fibrous Pulp	25.00	@ —
Orange Mineral	—	@ 8¼
Potato Starch	—	@ 3¾
Prussian Blue, dry	28	@ 45
Prussiate Potash, American	—	@ 13½
Rosins, common to good strained, ℔ bbl.	1.47½	@ 1.52½
Rosins, E, ℔ bbl	1.80	@ —
Rosins, F, ℔ bbl	1.80	@ —
Rosins, G, ℔ bbl	—	@ 1.80
Rosins, H, ℔ bbl	—	@ 1.90
Rosins, I, ℔ bbl	1.92½	@ —
Rosins, K, ℔ bbl	—	@ 2.20
Rosins, M, ℔ bbl	2.30	@ —
Rosins, N, ℔ bbl	2.60	@ —
Rosins, W G, ℔ bbl	3.00	@ 3.05
Sal Soda, English	—	@ 90
Soda Ash, caustic, 48 ℔ cent	—	@ 2.30
Soluble Blue	50	@ 55
Spanish Brown	½	@ 1
Sugar Lead, white	—	@ 22
Sugar Lead, brown	—	@ 5½
Sulphuric Acid, 66 ℔ cent	1¾	@ 2¾
Sulphate of Alumina	—	@ 2¼
Ultramarine, blue, German	15½	@ 17
Venetian Red	—	@ 1.45
Vitriol, blue	4½	@ 5
Yellow Ochre, Rochelle	1.17½	@ 1.45

BOSTON MARKET.

Paper Stock.

Mill Assorted Whites	5½	@ 5¾
Cotton Canvas	4½	@ 4¾
Cotton Canvas, No. 2	3	@ 3¼
Gunny Bagging	1¾	@ —
Gunny Bagging, No. 2	1¼	@ 1⅜
Shivey Bagging	1¼	@ —
Waste Woolens	¾	@ 1
Jute Butts	1½	@ 1⅝
White Collar Cuttings	3	@ 3¼
White Envelope Cuttings	3½	@ 4
Hard White Shavings, No. 1	3½	@ 3¾
Soft White Shavings, No. 1	2¾	@ 2⅞
White Shirt Cuttings	6½	@ —
Country White Rags	4¾	@ 4¾
Country Mixed Rags	1½	@ 2
City Whites, No. 2	3½	@ 3¾
Seconds, Country	3¼	@ —
White Shavings, No. 2	2¾	@ 3
Mixed Shavings (¾ white)	1¾	@ 2¼
Imperfections	1	@ 1½
Book Stocks	1¾	@ 1¾
Light Prints	1	@ 1½
Manilla Papers, old	2½	@ 2¾
Hardware and Manillas	$10.00	@ —
Straw Board Cuttings	$12.00	@ 15.00
Linen Canvas	3¾	@ 4
Colors	1½	@ 2½
Manilla Rope	2½	@ 2⅝
Binders' or Tar Board Cuttings	1¾	@ 1¾
Common Papers	—	@ 1
Oakum Junk	2¾	@ 3
Hemp Rope, Tarred	2½	@ —
Rigging	3½	@ 3¾

New Papers.

Superfine Book	8	@ 8¼
Fine Book	7	@ 7¼
News, rag and wood	5½	@ 6
News, straw	5½	@ 6
News, No. 1, all rag	6¼	@ 7
Manilla, Cream Rope	10	@ 11
Manilla, No. 1, Rope	9½	@ 10
Manilla, Extra Jute	6½	@ 7
Manilla, Jute and Gunny	6¼	@ 6½
Manilla, No. 2	5	@ 5¼
Manilla, Bogus	4	@ 5
Hardware, No. 1, tarred	7½	@ 8¼
Hardware, No. 2	7	@ 8
Hardware, red	5	@ 6
Straw Boards, air-dried, ℔ ton	50.00	@60.00
Straw Boards, steam-dried, ℔ ton	30.00	@40.00
Straw Wrapping, heavy	2.40	@ 2¾
Straw Wrapping, light	2½	@ 2¾
Binders' Boards, ℔ ton	53.00	@60.00
Leather Board, Common, ℔ lb	3	@ 4
Leather Board, counter	5	@ 8
Leather Board, extra	8	@ 10
Tar Boards, ℔ ton	100.00	@110.00

English Rags, &c.

Essex Fines	—	@ 4
London Fines, cotton	4½	@ 4¾
Outshots, cotton	3	@ 3½
Seconds	1½	@ 1¾
Seconds, extra	1¾	@ 2¼
Thirds	2	@ 2¼
New Print Tabs	2½	@ 3
Checks and Blues	2	@ 2½
Light Prints	1½	@ 1¾
Light Fustians	1½	@ 1¾
Dark Fustians	1½	@ 1¾
Black Calicoes	1¼	@ 1¼
Gunny Bagging, No. 1	1½	@ —
Gunny Bagging, No. 2	1½	@ 1⅝
Mixed Bagging	1½	@ 1⅝
Rope Manilla	2½	@ 3
Rope Manilla, tarred	2½	@ —
Jute Ropes	2	@ 2½
Jute Threads	2	@ 2½

English Old Papers and Shavings.

Hard Shavings, No. 1	2¾@	3
Soft Shavings, No. 1	2¼@	2⅜
White and Colored Shavings, No. 1	1⅜@	1⅝
White and Colored Shavings, No. 2	1¼@	1⅜
Cream Post Shavings	2¾@	3
Paper Collar Cuttings	2⅜@	2⅝
Ledgers	—@	2⅝
Newspapers and Pamphlets, extra	1⅜@	—
Old Newspapers and Pamphlets	1¼@	1⅜
Broken News and Letters	1 @	1⅛
New Books, solid folios	—@	2
Old Blank-Books	—@	2⅛
Old Printed Books	2⅛@	2¼
White and Buff Railway Sheets	1⅞@	2
Railway Tickets	1¾@	1⅞

Leghorn Rags.

P P, No. 1 Linens	—@	—
S S, No. 2 Linens	—@	—
T T, No. 3 Linens	—@	—
P, No. 1 Cottons	—@	—
S, No. 2 Cottons	—@	—
T, No. 3 Cottons	—@	—

Alexandria Rags.

Whites	1¼@	1¾
Blues	1¼@	1⅜
Colors	1⅛@	1⅛

Smyrna Rags.

Whites	1⅜@	1⅝
Blues	1⅜@	1⅝
Reds	1⅛@	1¼

Constantinople Rags.

Whites, No. 1	—@	—
Whites, No. 2	—@	—
Whites, No. 3	—@	—
Blues	—@	—
Reds	—@	—

Chemicals.

Alkali, 58 ℔ cent	1.20 @	1¼
Alkali, 76 ℔ cent	1.55 @	1.65
Aluminous Cake, currency	1¼@	1¾
Alum, American ground	2 @	2½
Alum, American lump	1⅞@	2
Anti-Chlorine	3 @	3¼
Bi-Chromate Potash, American	9½@	9¾
Bleaching Powders	1.80 @	1.85
Blackley Blue	2.00 @	3.00
Caustic Soda, 70 ℔ cent. (for 60 ℔ cent.)	2⅜@	2.42½
Clay, English, ℔ ton	13.50 @	18
Clay, American, ℔ ton	13.00 @	14.00
Copperas, American, ℔ lb.	½@	1
Extract Logwood	7½@	8¼
Lime, Rockland, ℔ bbl.	95 @	1.00
Prussian Blue, ℔ lb.	50 @	60
Prussiate Potash, American, yellow	—@	18¾
Prussiate Potash, red	51 @	52
Rosin, common strained, ℔ bbl.	1.45 @	1.50
Rosin, No. 2	1.50 @	1.60
Rosin, No. 1	1.65 @	1.80
Rosin, pale	2.50 @	3.00
Rosin, extra pale	3.30 @	3.70
Sal Soda, English, ℔ lb.	92½@	95
Soda Ash, 48 ℔ cent. cent. caustic	1¼@	1.30
Soda Ash, 48 ℔ cent. carbonated	1¼@	1.30
Soluble Blue	55 @	65
Sugar Lead, white	11½@	11¾
Sugar Lead, brown	6¾@	7
Sulphuric Acid, 66°	1¾@	2¾
Terra Alba, ℔ ton	15.00 @	20.00
Ultramarine, ℔ lb.	16 @	18
Venetian Red, ℔ lb.	1¼@	1⅝
Vitriol, Blue	4½@	5¼
Yellow Ochre	1¾@	2

CHICAGO MARKET.

Paper Stock.

Wholesale Dealers' Selling Price.

No. 1 whites	3¼@	3⅜
No. 2 whites	3.05 @	3¼
Thirds and blues	1¾@	2¼
Print rags	1½@	1.35
No. 1 book paper	1½@	1.60
No. 2 book paper	1¼@	1⅜
News	¾@	1.10
No. 1 manilla	1½@	1¾
Print papers	60 @	—
Straw papers	40 @	50
White shavings	2½@	2¾
Mixed shavings	1¾@	1⅞

Paper.

Plate	13 @	14
Super-Calendered, white and tinted	7¾@	9
Fine book, white and tinted	6¼@	7
No. 2 Book	6¼@	7
Colored Glazed Mediums	8 @	8¼
Rag News No. 1	5¾@	6
Ordinary Rag News	5 @	5⅛
Straw and Wood News	4¾@	5
Bleached Manilla, No. 1	—@	8
Ordinary Manilla	6¼@	6¾
Bogus Manilla	4 @	4¼
Straw Wrapping	2.50@	2½
Hardware Wrapping	2 @	2½
Tissue Manilla, 24 x 36, full count	—@	90
Tissue, white, 20 x 30	80 @	90
Tissue, colored	1.00 @	1.10
Tea Papers, 14 x 20	6 @	7
Tea Papers, 13 x 18	6 @	7
Tea Papers, 12 x 16	6¾@	7
Strawboards, air-dried, ℔ ton	$43.00 @	50.00
Strawboards, steam-dried, ℔ ton	37.50 @	42.50
Wood Pulp Card middles	6¾@	8

Advertisements.

CALENDER ROLLS.—WANTED, A PAIR OF Chilled Board Rolls, 15 to 20 inch diameter, 40 to 45 inch face, in good order, with frames and driving gear. J. & W. REID, Quebec.

WANTED—SITUATION AS MILL SUPERINtendent by a man of large experience in building and running Book, News and Manilla Paper Mills. Address C. G. T., care of Paper Trade Journal.

WANTED—A SOBER AND INDUSTRIOUS Superintendent, to take charge of a new mill running on Blotting, News and Manilla Papers; state salary expected and experience. Address A., care of Paper Trade Journal.

FOR SALE—ONE 200-POUND RAG ENGINE, Iron Tub, Iron Roll, 32 x 34, containing thirty-five Bars, with Pulley; will be sold very low. HOUSE & CO., Rainbow, Conn.

TO RENT—A VERY DESIRABLE FURNISHED office on Park Place, near Broadway, suitable for paper or stationery dealer, agent or broker. Address "OFFICE," care of Paper Trade Journal.

WANTED—A POSITION AS FOURDRINIER or Cylinder Machine tender; can give good references as to character and ability. Address FRED. BARNETT, East Pepperell, Mass.

FOR SALE—TWO 300-LB. BEATING ENGINES, complete; size, 28 x 27 inches, shaft, 9 feet. Address J. N. PEASLEE, Malden Bridge, Columbia County, N. Y.

A PAPER-MILL SUPERINTENDENT wishes to make a change; thoroughly understands making Print, Hanging, Manilla and Wrapping Papers; sober and industrious. Address E. W. E., care of Paper Trade Journal.

FOR SALE—A PAPER MILL, AT LEE, MASS. It is complete in all its parts, and has clear spring water and power enough to run all its machinery. The Fourdrinier Machine is 66 inches wide, and has two stacks Chilled Calender Rolls, and is driven by steam-engine; four Beating and Washing Engines, Jordan Engine, two Steel Boilers, Stock Cutters, and all other machinery necessary to make the plant complete; Dwelling-Houses, Barn, Stone Stockhouse. The mill and machinery are new, and all will be sold at a price much below cost. Address J. B. HULL, Stockbridge, Mass., or J. A. TANNER, Lee, Mass.

DISSOLUTION OF PARTNERSHIP.

The copartnership heretofore existing under the name and style of BUCHANAN, BOLT & CO. is this day dissolved by mutual consent, J. N. BROWN retiring from the firm.

All persons having demands upon, or indebted to said firm, are requested to adjust the same with the remaining members of the firm, who will still continue the business of the late firm under the same name and style and at the same place.

ROBERT BUCHANAN,
JOHN BOLT,
ANDREW BUCHANAN,
J. N. BROWN.

HOLYOKE, June 15, 1887.

WITHDRAWAL.

PHILADELPHIA, May 31, 1887.

The partnership heretofore existing between Wm. C. Hamilton, Chas. L. Hamilton, Wilbur F. Hamilton, and Edwin E. Hamilton, trading as W. C. Hamilton & Sons, has been dissolved by the withdrawal of Wm. C. Hamilton. The remaining partners will continue the business under the same firm-name of W. C. Hamilton & Sons.

WM. C. HAMILTON.
CHAS. L. HAMILTON.
WILBUR F. HAMILTON.
EDWIN E. HAMILTON.

WANTED.

A partner in the Rag and Metal business, established 1878; to one who understands the business a splendid opportunity, or will sell out. Population, 15,000 and increasing; five railroads and three more in sight; climate noted for health. If you mean business, address Lock Box 97, Columbia, S. C., with reference.

FOR SALE.

Six Cast-Iron Dryers, 28 x 68 inches.
Seven Cast-Iron Dryers, 28 x 62 inches, with frames, gears, packing-boxes, &c.
Four Cast-Iron Dryers, 36 x 62 inches.
Ten Knight's Dryers; 16-in. diam., 72-in. face.
For particulars address
THE BLACK & CLAWSON CO., Hamilton, Ohio.

FOR SALE.

Fourdrinier machine: one P. & J. iron vat and screen, new; wire, 62 inch by 25 feet; 12-inch couch rolls, 12-inch press rolls; top, gun-metal; bottom, hard rubber; six dryers, one new stack calenders, nine rolls (12 in. and 7 in. diam.), reels, slitter and winder complete; driving gear, suction pump and stuff pump. Can be seen running. Address C. & B., care Paper Trade Journal.

FOR SALE.

Fourdrinier Paper Machine.

Wire, 72 inches by 32 feet; 12-inch Couch Rolls; 12-inch Press Rolls, bottom roll rubber-covered; six 36-inch Dryers, four copper and two iron; two Stacks of Calenders, one of three 12-inch rolls, the other nine rolls chilled, top, 12 inch, bottom, 14-inch, and intermediate, 7-inch; Upright Reel; Steady-motion Cutter; Driving Gears all complete. Taken out to make room for a 90-inch machine. Address LOUIS SNIDER'S SONS, Hamilton, Ohio.

FOR SALE.

Three 36-inch Rag Engines, sound and in good order, made by the undersigned. Same to be replaced by larger engines. Can be seen running at mills of Hon. Byron Weston, Dalton, Mass. Apply to E. D. JONES, Pittsfield, Mass.

BARGAINS IN MACHINERY.

One Horizontal Corliss Engine, 20 x 48 in.
One Horizontal Corliss Engine, 18 x 48 in.
One Horizontal Corliss Engine, 14 x 42 in.
One Horizontal Wheelock Engine, 14 x 42 in.
Two Slide-Valve Engines, 10 x 24 in.
Two Slide-Valve Engines, 8 x 12 in.
Four Horizontal Tubular Boilers, 80 H.-P.
Three Horizontal Tubular Boilers, 50 H.-P.
Blake Steam-Pumps, Nos. 3, 4, 5, and 6.
One Engine Lathe, 24 in. x 20 ft.; new.
One Engine Lathe, 18 in. x 10 ft.
One Boring Mill, 32-in. Swing.
Several Upright Engines, from 6 to 40 H.P.
Also, Upright Boilers.
Send for Revised List.
D. B. CRUICKSHANK,
243 Dyer St., Providence, R. I.

FOR SALE.

The property of the Southford Paper Company Southford, Conn., comprising Mill and Machinery, two large Storehouses, six Tenement Houses, Machine Shop, Barn, Stables, &c.

The main Machinery consists of the following:
One 72-inch Four-Cylinder Machine,
One 1,200-lb. and three 600-lb. Engines,
Two Jordan Engines,
Two Steam-Engines,
Self-Clamping Cutter, Rag Cutters, Rotary, &c.

The Mill is a new and substantial Brick Building, and one of the finest in the country. It is located on one of the best of water privileges, with ninety feet fall, four Turbine Wheels, and everything connected with the plant is first-class in every respect.

F. B. RICE, Receiver,
WATERBURY, CONN.

☞ Must be sold at once.

PULLEYS—For Sale Cheap.

		Diam.	Face.	Bore.
Two Pulleys	inches.	36	5	1⅞
One "	"	36	6	1⅞
One "	"	30	8	1⅞
One "	"	18	7¾	1⅞

One Hoist-Wheel, fast and loose pulley, 36 inches diameter, 5 and 6 inches face, suitable for hand or steam power. Address O. M., Office Paper Trade Journal.

BARRY'S PATENT Automatic Steam Regulator

Can be used with live or exhaust steam, or both. For description and references address
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GAGE MACHINE WORKS, Waterford, N. Y.

CYLINDER WET MACHINE, 72-in.
80 H.-P. STEAM BOILER.
68-in. FOURDRINIER PAPER MACHINE
And other desirable Machinery cheap.
PLATNER & PORTER MFG. CO., Unionville, Conn.

AUGUSTINE SMITH & CO.

PAPER WAREHOUSE,
Nos. 110 & 112 NASSAU ST., NEW YORK.
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DETROIT, MICHIGAN.

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Correspondence solicited with reference to the purchase of Mill rights and license under royalty. We refer to the Alpena Sulphite Fibre Co., Alpena, Mich., who are now operating a ten-ton mill under the Mitscherlich process.

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Manufacturers' Agent of
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All Spruce, Bleached and Unbleached for Manillas, Book and Writings. Free from Bleach and Soda. Send for Samples to

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MONTREAL, CANADA.

Paper Mill Machinery FOR SALE.

Two Engine Rolls, 34 in. diam., each containing 68 bars 36 in. long, with stands and lighters complete.
Two Engine Rolls, 34 in. diam., each containing 60 bars 40 in. long.
Five Iron Pulleys, 5 feet in diam., 14 in. face, 7¾ in. bore.
One Iron Pulley, 4 ft. diam., 14 in. face, 4½ in. bore.
" " 5 10-12 " " 14 " " 5 " "
" " 7 2-12 " " 14 " " 4 " "
Seven Iron Calender Rolls, 7 in. diam., 73 ft. face.
Two Iron Rolls, 10 in. diam., 72 in. face.
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Lot of Calender Rolls, 5 in. diam., 73 in. face.
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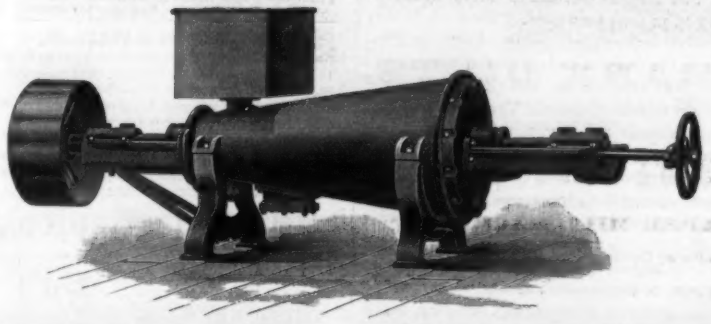
FOURDRINIER, HARPER IMPROVED FOURDRINIER AND CYLINDER MACHINES.



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Screens, Calenders, Rag Cutters, Cylinder Molds, Deckle Straps, Paper Cutters, Screen Plates, Dandy Rolls, Stuff-Box Trucks, Iron and Brass Castings.

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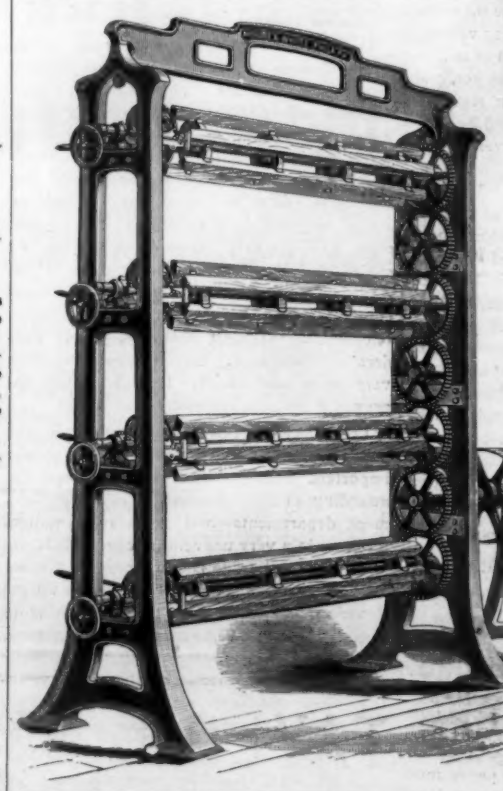
FOR PARTICULARS, ADDRESS
THE BLACK & CLAWSON COMPANY, Hamilton, Ohio.



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Engines, Machines, Calenders, Trimming Presses, Rag Cutters, Pulleys, Shafting, Gearing, Screen Plates, Cylinder Molds, Engine Roll Bars, Bed Plates, Etc. Iron and Brass Castings.

A NEW STOCK CUTTER EXPRESSLY FOR MANILLA MILLS.

FOSTER & BROWN, SACCARAPPA, MAINE,

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SPECIALTIES:

Improved Paper-Coating Machines; Hanging Machines, and Power Reels for Coated Paper; the Merrill-Foster Noiseless Pulp Screens; Paper Slitting and Trimming Machines; Hardened and Ground Slitters; Automatic Elevators.

BUILT UNDER OUR OWN SUPERVISION.

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Branch, 291 Market Street,
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NEWARK LEATHER BELTING CO.,

Factory and Salesroom, 32 and 34 Ferry Street, New York.
LARGEST LEATHER BELTS IN THE WORLD.
New York Telephone Call, "Nassau 307."

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ELECTRIC LIGHT BELTS a Specialty.
Genuine Fulled Raw-Hide and Page's Patent LACE LEATHER.

Hydraulic Baling Press.

The Most Powerful, Convenient and Economical Press Made. Specially suited to the Paper Stock Trade.

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PAPER SUPER-CALENDER ROLLS PRESSED.

WE make a Specialty of Grinding Calenders on "J. MORTON POOLE GRINDER," which is the only machine upon which a roll can be ground perfectly, either straight face or crowned truly from the centre.

Also Grind Iron Press and Gun Metal Couch Rolls.

Paper Super-Calenders REFILLED and Pressed. Can furnish suitable paper for same, or will press on such paper as may be furnished. Prices given upon application.

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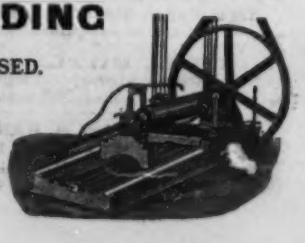

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SIMPLEST MOST DURABLE MOST EFFECTIVE

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WITH SCREW OR HYDRAULIC FEED, AND
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SPECIALTY MADE OF PAPER MILL ENGINES.
Also Engine Bars and Bed Plates; Improved Grinding Machine for Grinding; Press and Chilled Calender Rolls.
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Steam Boiler, Engine Works and Iron Foundry,

Marine and Stationery Boilers. Rotary Blowers and Castings.
Water, Lard and Oil Tanks and Sheet-Iron Work,
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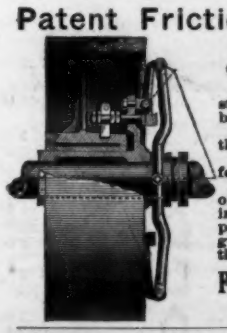

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COUPLINGS.
Every pulley made strong enough for double belts.
Positively no end thrust.
Simplest and most effective clutch in market.
Friction applied at rim of pulley, therefore making it as strong as solid pulley. Every clutch guaranteed. For particulars address
Friction Pulley Co.,
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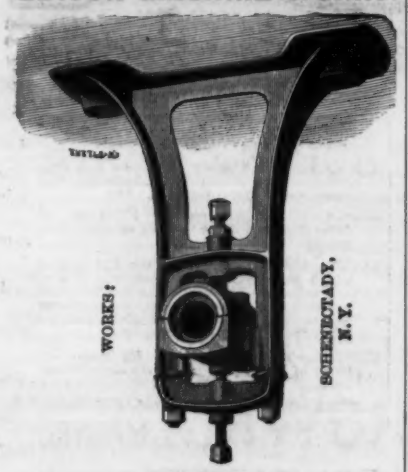
EDISON MACHINE WORKS.



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Shafting, Pulleys, Hangers, Couplings, &c.
Write for Illustrated Price List with Discount.
Machine Molded Pulley Castings for sale low,

HARTFORD STEAM BOILER INSPECTION AND INSURANCE CO.
HARTFORD, CONN.

—Thorough inspection.—
Insurance against loss or damage to property, also against loss of life and injury by Steam Boiler Explosions.

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H. D. P. BIGELOW,	*Chicago,*	112 Quincy St.
C. C. GARDINER,	*St. Louis,*	404 Market St.
L. B. PERKINS,	*Hartford,*	318 Main St.
LINKBURGH & SON,	*Bridgeport,*	326 Main St.
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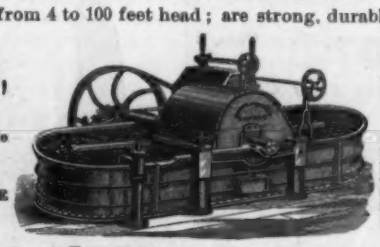
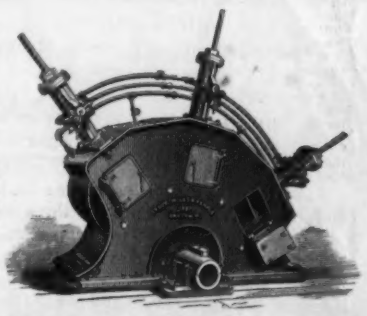
NEW **AMERICAN TURBINE WHEELS,**
FROM SIX TO SIXTY-SIX INCHES DIAMETER,
Are in practical operation under heads from 4 to 100 feet head; are strong, durable, and give high efficiency.

BEATING ENGINES,
Cast-Iron or Wood Tubs,
Made heavy and strong, double lightered, with well-made Cone Washers.
DESCRIPTIVE CATALOGUE SENT FREE.



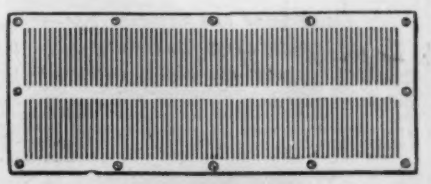
D. T. MILLS'
Wood Pulp Grinder.
Superior in construction to any made. Capacity, 2,000 to 3,500 pounds extra good pulp per day, dry weight. Hydraulic feeds, fine adjustments; strong and reliable in every way. Two and three pocket machines.

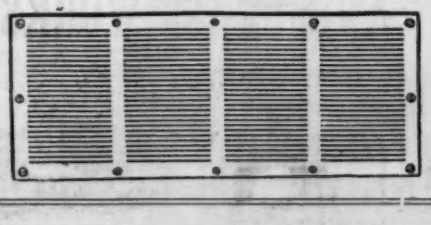


STOUT, MILLS & TEMPLE, Dayton, Ohio, U. S. A.

MILLARD'S NEW
PATENT WOOD PULP GRINDER
WITH IMPROVED HYDRAULIC FEED,
Is Superior to any Machine now on the Market.
—BUILT BY—
THE STILWELL & BIERCE MFG. CO.,
DAYTON, OHIO, U. S. A.

NATHAN BARNERT. ROBERT A. HALEY. WM. C. MARTIN.
ANNANDALE
Screen Plate Co.,
PATERSON, N. J.





Manufacturers and Repairers of
SCREEN PLATES.
Our New Plates are made of the
VERY BEST METAL,
and for price and durability cannot be surpassed.
OLD PLATES RE-CLOSED.

TAYLOR, STILES & CO.,
MANUFACTURERS OF THEIR
Giant Paper Stock Cutter
AND

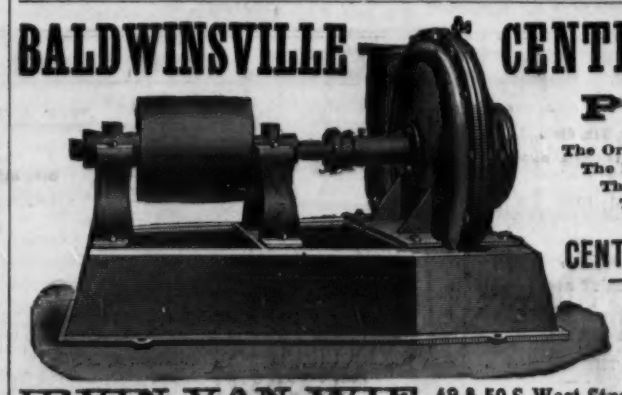
(These Plates are made for Right and Left Hand Engines.)
ALSO
PAPER MILL FLY BARS,
Rag Cutter, Chipper, Stop Cutter and Trimming Knives.
RIEGELSVILLE, WARREN CO., N. J.

SPRINGFIELD GLUE and EMERY WHEEL CO.,
33 to 35 Taylor Street, Springfield, Mass.
IMPROVED AUTOMATIC KNIFE GRINDER.

Write for Illustrated Circular No. B.

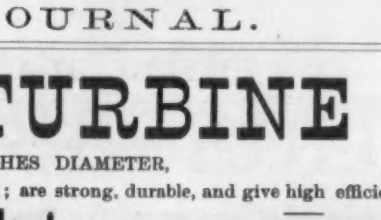
ONCE IN MOTION REQUIRES NO ATTENTION. WILL grind a Knife in one-third of the time needed on any other machine. Will stop feeding and grinding at any point. Knife can be set with edge up or down to grind to or from the edge.
Water runs on wheel and prevents all heating and expanding of Knife while being ground, so that Knife is straight when done. Emery Wheel is hung in a swinging frame, easily adjusted by a forward movement as wheel wears away.
Has an Automatic Cross-feed that can be adjusted so precisely that it will grind 1-4,000th part of an inch at each traverse of the carriage, and as much more as desired. Wheel is 26 × 1¼ inch width, with 13-inch hole, so future wheels cost one-fourth less than ordinary wheels. The machine can be made to run with cup-shaped or tub wheel.

BALDWINSVILLE CENTRIFUGAL PUMP.



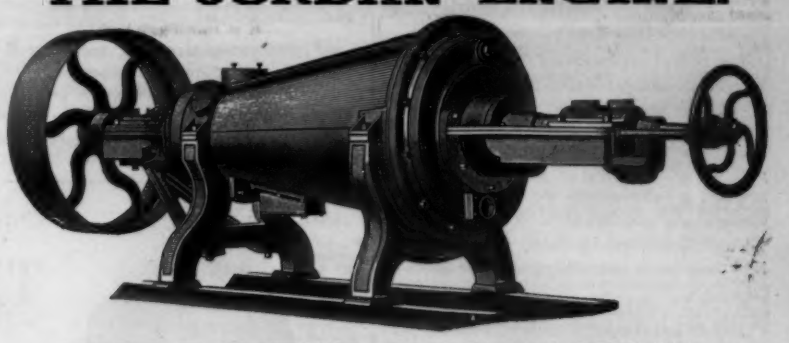
The Original,
The Most Efficient,
The Best Built,
The Easiest Running,
The Most Durable
CENTRIFUGAL PUMP
—IN THE MARKET,—
For Paper and Pulp Makers' use.
Before purchasing, address for Catalogue and Prices,
IRVIN VAN WIE, 48 & 50 S. West Street, Syracuse, N.Y

THOMPSON & CAMPBELL
(Successors to KEISER, CAMPBELL & Co.),
1030 Germantown Ave., Philadelphia, Pa.,



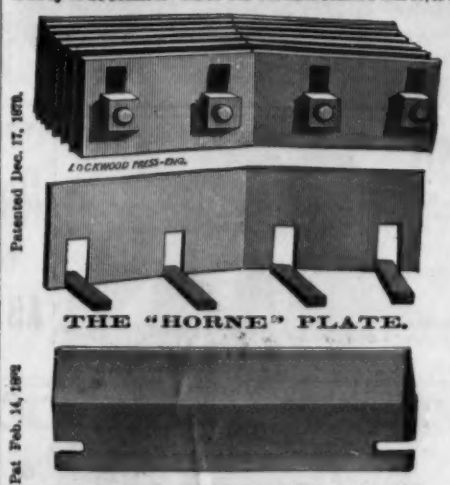
W. H. RUSSELL'S SAND WASHER,
An improvement in Washing Engines.
MACHINISTS AND MILLWRIGHTS.
MANUFACTURERS OF
Beating and Washing Engines, Pumps, Rag-Dusters and Paper Mill Work in general.
MILLWRIGHT WORK A SPECIALTY.
—ALSO, MAKERS OF—
Improved Cylinder and Fourdrinier Machines.

THE JORDAN ENGINE.



THE PATENT JORDAN PLUG.
Patented May 25, 1875, and Jan. 5, 1885.

This Plug is an Improvement over all kinds in the country. It can be Refilled with New Bars at the mill where it is used, when worn out, by any ordinary mechanic, in a short time, and thereby save freight and expense of sending it away to be refilled. All of our Jordans contain this style Plug.



J. H. HORNE & SONS,
MANUFACTURERS OF
Jordan and Paper Pulp ENGINES,
Roll Bars, Bed Plates, Rag Knives.
JORDAN ENGINES REFILLED.
Jordan Bar and Filling Constantly on Hand.
LAWRENCE, MASS.

HISCOX FILE MFG. COMPANY,

West Chelmsford, Mass.,
MANUFACTURERS OF
PAPER MILL ENGINE PLATES,
FLY BARS,
Rag and Bed Knives, &c.
PRICES CHEERFULLY FURNISHED.

Manufacturing News.

EASTERN STATES.

The new pulp mill at Riverside, Mass., was expected to start up this week.

The Waverley Mills, Buckland, Conn., have just started three new sets of super calenders. The Mather electric light is used there.

The Haverhill Paper Company's mill, Bradford, Mass., is running two machines on paper for the Boston *Globe*, 200 feet per minute. This is a steady order. The mill is equipped with the Mather electric lights. John Mitchell is superintendent; Henry Hooper is foreman of the machines, and Ed. Morgan is tending machine.

The Seymour Paper Company, Windsor Locks, Conn., will soon build a large addition to its finishing department. It is now cramped for room and is obliged to work the help in this department ten to fifteen hours a day. It will add new and improved machinery, and also a larger working force.

MIDDLE STATES.

The Cataract Manufacturing Company, Niagara Falls, N. Y., is about to engage in the manufacture of polishing-wheels with wood-pulp centres.

H. F. Watson, Erie, Pa., has ten boilers in his large paper mill equipped with the Sims automatic boiler-cleaner. The Sims "Automatic" cleans the boilers of mud and scale and keeps them clean. They are manufactured in Erie by the Sims Company, Limited.

Moore & White, Philadelphia, Pa., are working a full force of hands on paper-making machinery of all kinds. They report many orders for new work, besides general repairs. Since moving into their new shops they have been adding new machinery, which enables them to turn out work promptly.

The Salmon River Paper Company, Malone, N. Y, has just given out a contract for a 200 horse-power engine, two 100 horse-power steel boilers, pump, &c., to increase its power. It is also arranging to erect a ten-ton pulp mill this summer and make other extensive improvements which will increase its present production about five tons per day. It is very full of orders on news, manilla and colored poster papers.

J. N. Peaslee, Malden Bridge, N. Y., is refitting his mill, and has put in four new 400-lb. engines in place of two 300-lb. engines.

The mill of the Brainard Paper Company, Limited, Brainard, N. Y., is in the hands of the sheriff, the stockholders being at loggerheads. The hands employed in the mill lately seized a car-load of paper for the purpose of securing their wages, and the sheriff stepped in and attached the car and its contents.

The Westmoreland Paper Company, West Newton, Pa., is remodeling its engines, &c.

WESTERN STATES.

The Dodge Paper Company, Delphi, Ind., is very proud of its new mill just completed. It has made a radical departure in the disposition of power, which is giving the most satisfactory results. The company has practically done away with line shafting and is driving each beater, calender, &c., by independent power. The beaters are arranged in pairs, with a Westinghouse engine of 75 horse-power between each pair, coupling right and left directly to the beater shaft. The couplings are flexible, allowing for the raising of the rolls. Independent engines are similarly connected to the machines, calenders, &c. This plan looks to a very considerable saving in first cost, and particularly to economy of power and fuel. The Westinghouse engine applied in the same manner is said to have met with great favor in paper mills throughout Great Britain.

The Michigan Paper Co., Plainwell, Mich., expects to start up its new mill about July 1.

A new mill is projected at Delphi, Ind., by Mr. Rinehart, formerly of the firm of E. Rinehart & Son, of the Delphi Paper Mills.

Frank Steele and others are contemplating the erection of a ten ton wood-pulp mill at Centralia, Wis., or in that vicinity.

J. H. Seiberling, of Akron, Ohio, is building a strawboard mill at Kokomo, Ind., which will be run by steam, using natural gas for fuel. He is putting in line shafting and eight 42x42 iron tub engines, built by Stout, Mills & Temple. He will use a "Buckeye" steam-engine.

The Xenia Paper Company, Xenia, Ohio, is using natural gas for fuel.

The George H. Friend Paper Company, West Carrollton, Ohio, is putting in one of its mills a new 1,000-lb., 48x48, iron-tub engine, built by Stout, Mills & Temple.

The Haldeman Paper Company, Lockland, Ohio, contemplates putting in its mill a new steam-engine and adding two beating-engines to its plant.

Hinde, Harvey & Co., Sandusky, Ohio, have increased their engine capacity by the addition of a new 48x48 iron tub engine.

The Claflin Paper Company, South Toledo, Ohio, is projecting the erection of a new mill at some point in the natural-gas region.

Oglesby, Moore & Co., Middletown, Ohio, are going to build a new mill, and will put in two new machines and other new machinery.

The Gardner Paper Company, Middletown, Ohio, has put in a new 1,200-pound iron tub rag-engine with 54-inch roll, 48-inch face, built by Stout, Mills & Temple.

The Titus Paper Company, Middletown, Ohio, is going to put in three 1,200-pound, 54x48, iron tub rag-engines in the place of four 600-pound, 36x36, engines.

CANADA.

The Maritime Chemical Pulp Co., Limited, Chatham, N. B., is manufacturing fibre by the Ritter-Kellner process, the product being seven tons per day. The company has put in a 90-inch Fourdrinier machine and runs its mill by steam.

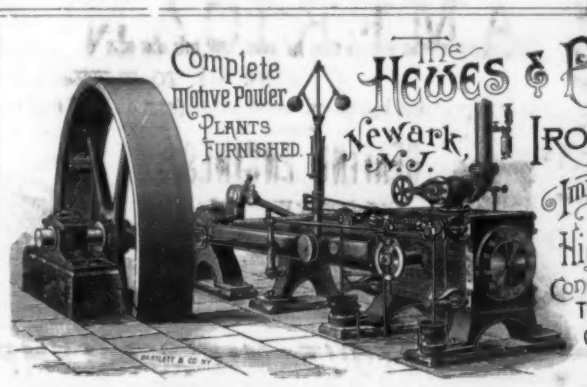
General Notes.

A paper mill is offered for sale in another column. This is said to be a desirable property and it is offered on low terms.

"Lockwood's Directory of the Paper and Stationery Trades" for 1887 is now ready for delivery. Best and only reliable trade guide. Price, $2.

The Post-Office Department has given the contract for blotting-paper to the J. R. Michael Manufacturing Company, the "Star" blotting made by the Richmond Paper Manufacturing Company being the grade selected. The Treasury Department has also taken twenty reams of "Climax" blotting.

The Westinghouse Machine Company averages shipments of nearly 60 engines per month, the average size being about 45 horse-power. It has been suffering severely from lack of foundry capacity since the recent fire, but the new foundry, nearly completed, will enable it to turn out at least 100 engines per month.



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Fourdrinier and Cylinder Machines, Washing and Beating Engines,
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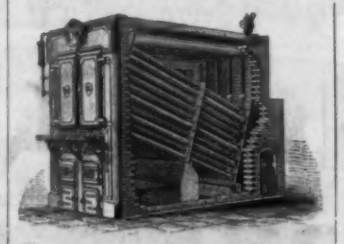
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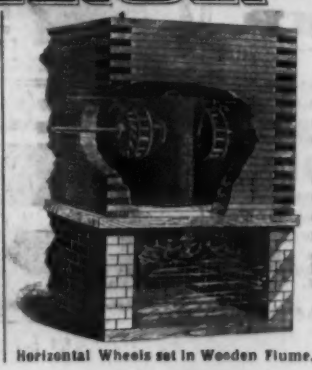
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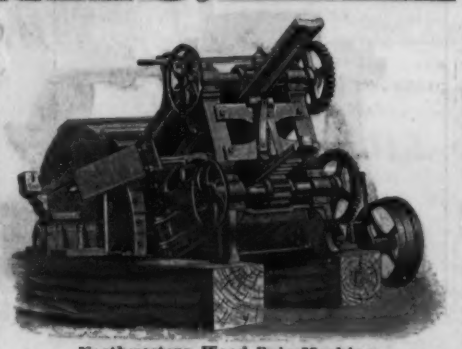
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Paper Making and Its Accessories.

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Early Engineering Reminiscences.

By George Escol Sellers.

(Continued.)

After this Mr. Donkin dropped back into a free and familiar discussion of the state of mechanics and their advance in England. Great and successful inventor as he was, and one who had done so much in perfecting whatever passed through his hands, and who was certainly the most progressive machinist I had met in England, yet he seemed to labor under false impressions, and not clearly to understand the condition of things that led to such rapid advances in mechanical pursuits in the United States. He made notes of the wages we paid for skilled labor and such cost of crude materials as I could give him. Then he came back to the squirrel-cage cylinder, and said he could not see how we could afford them at the price I had named. As I had myself made many of them, I went fully into detail, and seemed to satisfy him that the higher wages naturally led to mechanical contrivances, and that, in the case of the cylinders, they were of the simplest possible kind, and yet as labor savers that portion of the cost was reduced below the cheaper labor in England; that, in the crude materials, the iron and bars, the saving was made in proportioning the parts to the work they had to perform, the American cylinder not weighing over two-thirds that of the English.

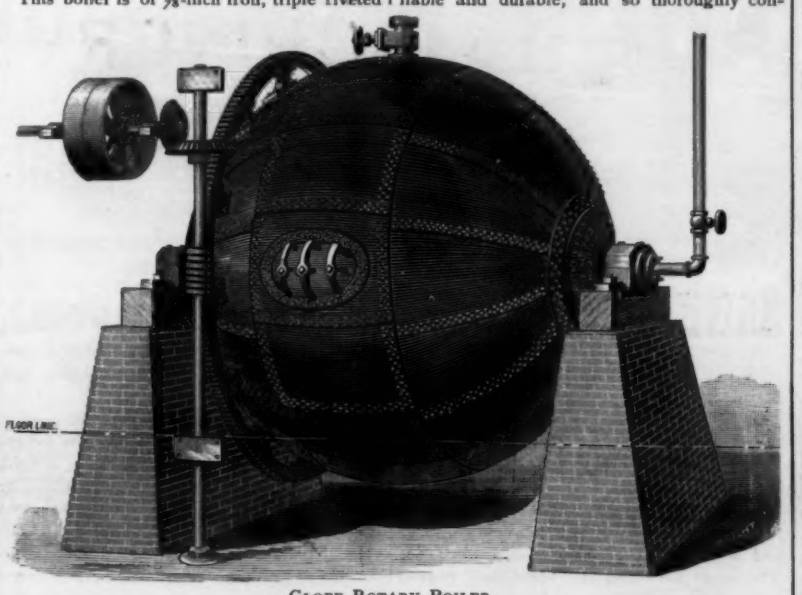
Lying on his table I noticed what appeared to be samples of pliers, nippers, and a few such like tools. I picked up a pair of pliers, and remarked that it looked like an American tool—not so clumsy as those I had seen in use in shops I had visited. "Strange," said he, "they are samples from Stubbs, of Sheffield, and they are sent as the American pattern," and, he supposed, were being introduced under that as a distinctive name. He seemed greatly surprised when I told him they were fairly entitled to be called the American pattern; that the brothers B. & E. Clark, of Philadelphia, watchmakers, in addition to their watch and clock repairing business, kept a supply store of watch and clock makers' materials, including tools, and in my earliest recollection they were the only parties in Philadelphia that kept on sale Stubbs' steel, files, &c. They were fine workmen and ingenious men, who either altered English tools or made those they used of such form and proportions as they found best adapted for the general work they had to do. Samples of these were sent to Sheffield to be duplicated, and for a considerable time they were the only parties who kept them for sale; but they had spread until they became universally adopted. That in Birmingham, I had noticed the same thing taking place in general hardware—the class being made for the American market materially differing from that for home consumption, being generally lighter and more elegant in form. That I had learned that in every case the change had been made to conform to patterns or drawings sent from the United States. He spoke of the feverish state of excitement among his best skilled labor, owing to the glowing accounts they received from brother workmen who had emigrated, and he asked me as to their real condition. Men, he said, who, on the English plan of division of labor, were only perfect on a single branch, he did not believe it possible could find constant employment on that—in a comparatively new country. I told him that he must bear in mind that America's start in mechanical art was at the point England had reached and without her prejudices. That the men who at home would resist the introduction of labor-saving machinery were glad to accept such as they found in America, as by it they were enabled to turn their hands to general work as it offered. I reminded him of the English prejudices that years before had led to the riots that destroyed the nail-cutting machines that Samuel R. Wood, of Philadelphia, was endeavoring to introduce in England. Wood was a member of the Society of Friends and non-combative, and he left England in disgust.

I said it would be impossible to estimate or realize what the rejection of the cut nail had cost England. Its invention in America filled a vacuum and was almost a necessity, not only as to first cost of the nails but as great labor-savers in carpenters' work; that I had noticed that in England every carpenter had in hand either brace and bit, gimlet or brad-awl, according to the work he was doing, for without them the square, uniformly tapered, hand-made wrought nail was the best possible form that could be devised to split the wood it was driven into, without first boring a hole to receive it; that its tapered form, if not driven through and clinched, would lose its hold on the least starting back. Still they continued in common use. That on watching the joiners at work I believed I was safe in estimating that for every English nail driven the user of the American cut nail would drive four or five. That in pattern-making shops I had seen the wrought clout in use by having its head flattened edgeways by a stroke of a hammer, and then it made a ragged hole to be filled with wax or putty. Mr. Donkin smiled as he said, "I have long been using in my pattern shop the American cut brads;" then he must understand the point. But I would give another instance of the fixed ways and prejudice of the Old Country that kept back improvements. E. R. Sheer, a pianoforte maker of Philadelphia, in fitting work where wood screws had to be withdrawn and again driven in the same holes, had found it difficult to make the common square-end English wood screw enter and follow the thread cut by the first insertion; he had mounted a clamp chuck on a foot-lathe that would grasp the shank of the screw; then with file and chasing tool he tapered the end of the screw like that of a gimlet. He had given me several of these as samples, with the request that when in Birmingham I would induce some good screw-maker to fill a considerable order of gimlet-pointed screws. I had gone to the makers with a prominent shipper of hardware through whom they received most of their American orders, and we had failed to induce any one of them to fill the order; they and their predecessors had always made wood screws as they were then doing, and they would have nothing to do with such new-fangled notions. Mr. Donkin did not expect Mr. Ibotson before noon, and said if I could come to his shops one or two hours in advance he thought he could show me a shop that had abandoned some old fixed ways and made fair advances, and added—if it has not kept up with America.—*American Machinist.*

Globe Rotary Boiler.

An illustration is given of a globe rotary boiler fourteen feet in diameter, as manufactured by the Erie City Iron Works, Erie, Pa.

This boiler is of ⅜-inch iron, triple riveted with ¾-inch rivets, the riveting being done by steam wherever possible. The plates are pressed into shape after being thoroughly heated at an even temperature in a large furnace used for this purpose, so that there can be no inequality of the temperature at the time. The bearings are made of cast-iron of large diameter and constructed as heavily as is consistent with good workmanship; they are attached to the boiler by means of heavy cast-iron flanges of large diameter and are securely riveted to the boiler. The man-hole is of ample size, and it will be seen is strengthened around the opening by a very heavy wrought-iron ring which is well riveted to the shell.



Globe Rotary Boiler.

The concern mentioned also manufactures the "Standard" feed-water heaters, which are simply constructed and efficient in operation; also horizontal and vertical stationary boilers in steel and iron.

Process of Obtaining Muriatic Acid.

A process for producing hydrochloric acid by a cheap, easy and quick method, and securing a product in which little free chlorine is present, is carried out as follows: Oxides of the metals—such as manganese, iron, nickel, copper and lead—are subjected, while at a proper temperature, to the action of vapors of ammoniac chloride or sal-ammonia, by which they are converted into metallic chlorides. These metallic chlorides are then heated in a suitable receptacle to a temperature of 150° to 500° Centigrade, and subjected to the action of a mixed current of steam and a gas containing free oxygen, as air. The chlorides are decomposed and the higher oxide of the metals formed. The chlorine, being released, unites with the hydrogen of the decomposed steam and forms hydrochloric acid, which passes over into the receiver. To carry out this process successfully the higher oxides of the metals must be formed, to do which it is necessary to have free oxygen in addition to the steam; hence a mixed current of steam and some gas containing free oxygen, as air, is used.

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The Penberthy improved automatic injector, for which Jenkins Brothers are agents, is herewith illustrated. In this improved injector the manufacturers claim to cover a broader range and greater simplicity than is found in the ordinary run of injectors. While it works on very low and very high steam-pressure it has a strong lift, handles hot water and is perfectly automatic—a very important feature, one in which steam-users should be especially interested. When the water-valve is once set, the steam-pressure may vary from fifty to seventy pounds without affecting the feed or readjusting the valve. Another important feature claimed for this injector is economy, in that its parts being interchangeable any part can be replaced at small expense and without the necessity of sending the injector to the factory for repairs. The injector is claimed to be very simple, reliable and durable, and so thoroughly convinced are the manufacturers that the injector will give full satisfaction that a written guarantee is given with every injector sold. Full explanation as to the workings of this injector, manner of construction and setting up will be mailed to steam-users upon application to Jenkins Brothers, Boston, New York, Philadelphia or Chicago.

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One 7-roll Stack of Calenders, 62-inch face, with stands, boxes, shaft, pulley, &c., all in running order, viz, three 12-inch, one 9-inch and three 5-inch.
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Also, one 36-inch diam. by 49 inch making cylinder.
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FOR ALL PURPOSES.
Have issued a new Price List to supersede all others—May, 1887. Sent by mail free. Ask for Circular No. 29.

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CAPACITY, 10 TONS PER DAY.
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MANUFACTURERS OF THE CELEBRATED
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The grit of the stone from our Peninsula Quarry is particularly adapted to grinding **Wood Pulp.**
All the **Wood Pulp Manufacturers** who have used these stones say they give general satisfaction, and are much superior to any **imported** stone. We manufacture stones for the following machines: The Warren-Curtiss, Voelter, Brokaw, Frambach, Allen & Jones, Stout, Mills & Temple, Northwestern (Valley Iron Works), and all others.
In sending orders please be particular to give the exact dimension the stone must be. Give the diameter and face of stone, the diameter and depth of flange, where flanges are to be cut. State size of hole for shaft, and if round or square.

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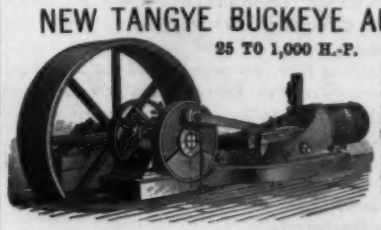
25 TO 1,000 H.-P.



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Automatic Knife Grinder,
FOR ALL KINDS OF
LONG KNIVES.
This Machine soon pays for itself in the labor it saves. It will grind a knife in less time than on a grindstone, and with a perfectly straight edge, in itself a sufficient reason for purchasing the machine, to say nothing of the economy.
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Wheels Made to Order and Castings Filled.
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On May 15, 1886, Fletcher, Pack & Co. began the construction of a ten-ton sulphite mill at Alpena, Mich. The work was pushed forward rapidly, the labor being carried on day and night and by the aid of the electric light, and on November 15 the mill was completed and actual manufacture was begun. The Mitscherlich process was adopted, and the mill was built and started up under the supervision of Mr. Mitscherlich's representative, Waldemar Thilmany.

The mill has four digesters, each forty feet long and fourteen feet in diameter, and weighing, when filled, about 280 tons, taking from twenty-five to thirty cords of timber at a time. The timber comes as cordwood, and varies in diameter from four to twelve inches. These pieces are cut into two-feet lengths, and after being stripped of the bark are again cut, this time into lengths of one and a quarter inches. The rotten knots are then bored out. Sound knots are not disturbed. From the saws—of which there are four of the circular pattern—the wood goes on an elevator and is carried to the third floor, and from there is dropped into the boiler through two large man-holes. When the boiler is filled within two feet of the opening, direct steam not under pressure is admitted, the condensed steam and sap being allowed to run off. At the end of six hours the steam is shut off, and in twenty minutes the boiler is filled within a foot of the top with a solution of bisulphite of lime. Steam is then run through lead coils which lie in the bottom of the boiler. This continues for about twelve hours, the steam being at about forty pounds pressure. It takes from sixteen to eighteen hours to finish the operation, the progress being watched by drawing off a little of the bisulphite of lime and testing it.

As soon as the operation is complete the solution is run off, the boiler is cooled off once or twice with cool water, the man-holes are opened and the contents run out on the floor, and are then carried automatically to the wash-room. There the mass first goes in what is known as a "hopper," which is a wooden tank, four feet in diameter, inside of which is an "agitator," which revolves at about forty revolutions a minute. This breaks the mass up, and it leaves the "hopper" looking something like feathers. Then it goes to another cylinder, which is furnished with a big stream of water, from which it issues in a milky state. It is next carried to a third cylinder, which is furnished with a coarse copper screen and sprinklers. This cylinder revolves slowly, the stuff being sprinkled as it passes through and passing off as pure fibre, while the knots are screened off and drop out of the machine at a separate opening. The fibre is then carried to No. 4 screen-plates, then to the wet-machine, and is then wound in rolls and is ready for the market.

In making the bisulphite solution three towers are used. These towers are built of three-inch plank and are five feet in diameter and 108 feet high. At the bottom there is a heavy wooden grating, and from here clear to the top each tower is filled with porous limestone which comes from Sandusky, but which is also found all over the United States. At the tops of the towers are tanks filled with water.

A spray of water drizzles over the stones, while from under the wooden grating rises a column of sulphur gas or sulphurous acid, which is obtained by burning pure sulphur. This gas enters the towers, is condensed by the water coming down, and dissolves the limestone. These limestones are not removed, but, as they settle down, are renewed from the top of the towers about every week. Once a month the "scrabble" is cleaned out. The solution, the result of the operation in the tower, is gathered in a tank at the bottom and is forced by means of air-pressure into receivers, which stand high enough to allow the flow of liquor into the digesters. This liquor is readily secured of a strength of from 6° to 10° Beaumé.

The digesters are built from ¾-inch iron in the shell, with heads of inch iron, the heads bulging about a foot. They rest on saddles to allow for expansion, and are set on heavy iron girders about seven feet from the ground floor. After being placed in position the boilers are painted inside with a sticky paint made from pitch and coal tar, and are then lined with lead foil of the thickness of paper. This foil is laid all over the interior surfaces double and is simply a precautionary measure. Then the insides are laid with acid-proof brick, which is imported from Europe. These brick are tongued and grooved and are laid in a special Portland cement, the second course being laid edgewise. The brickwork makes a lining of eight inches. These bricks are not only acid-proof, but they are made so that they expand and contract with the temperature of the boilers. The heating-pipes in the boilers are made of a composition of lead and antimony and stand a pressure of 120 pounds, although in work a pressure of only 68 pounds is used. These pipes last four or five years, and then have to be replaced at a cost of $500. Valves are made of a sort of phosphor-bronze, but are lined with lead and antimony, as are also the stuffing-boxes, &c.

The mill is also equipped with three steam-boilers and a 150 horse-power steam-engine, an electric-light plant, and turns out from ten to twelve tons per day.

The mill is open to the inspection of everyone and the owners will be glad to have it visited by the trade.

The main point in the operation is that there must be a surplus of lime in solution. Otherwise as soon as the process comes to an end and the lime in solution is exhausted, it is necessary to blow off the liquid or else the wood will be turned black. It is of the utmost importance to have this surplus of lime, in order to produce pure white fibre. With the liquor at 6° Beaumé the boilers can be filled and the liquor is not exhausted when the timber is turned into fibre. Spruce and balsam are the woods used. Poplar is not quite so strong. Beech and maple dissolve as easily, but do not have the strength of the pine. One and a quarter cords of wood make a ton of sulphite fibre, dry weight, and the fibre from twenty-five or thirty cords of wood—the charge of a boiler—does not contain an unreduced piece as large as a hickory nut.

A similar mill is now being built at Detroit, Mich., and will be running in March next, under license from the owners of the Mitscherlich patents.

The rights under the Mitscherlich patents for the United States and Canada are owned by the International Sulphite Fibre and Paper Company, which is ready to furnish engineers and guarantee the production of fibre at a given price and the entire success of the plant.

The Downingtown Rag-Engine.

In the construction of this engine the designers have aimed to produce an engine which will turn the stock very rapidly and produce the most evenly beaten pulp, as well as a machine of great simplicity, strength and durability. The turning and beating is effected in the following manner:

The bed-plate is placed upon the floor of the tub. The roll is made sufficiently large in diameter to give the tub a proper depth.

The breast is thrown back slightly at the top and the fly-bars are thrown back from a radial line three to four degrees and the cab is made to extend some twenty inches back of the roll. This form of engine does not carry over the roll a particle of stock, but draws its stock from the bottom, thus preventing it from lodging.

By close observance of these points the makers claim that they have the most rapid turning-engine on the market.

The roll is constructed with cast-iron heads, three to five in number according to the length of the roll, which are first clamped upon the white oak filling by heavy bolts, thus preventing the wood from ever becoming loose or flying out; the heads are securely keyed to a hammered steel spindle; the fly-bars are snugly fitted into slots two inches deep in each head, and secured by wrought bands in the usual way. All of the spindles are of the best hammered steel. The journals are long, and are provided with self-lubricating lids. The boxes are faced and bored and poured with genuine babbitt-metal in recesses cast in the seat for that purpose. The boxes rest on the lighters on planed ways, having a horizontal adjustment in the lighters. The posts supporting the lighter at the pulley end of spindle are connected by a heavy brace, making them very rigid.

The lighters are raised by worm gearing on the screws, connected by rod and crank, raising both ends of the roll simultaneously, thus preventing all end thrust of the roll and causing the fly-bars and plate to wear evenly. At the roll-lighter there is a quick relief lever attachment, by which the roll can be raised instantly in case of choking, and is quickly returned to its original position without disturbing the screws.

The breast and fall and rise are made of cast-iron, and so constructed that the breast can be moved up to the roll as the fly-bars wear away, thus insuring a good turning-engine until the fly-bars are worn out.

The tubs are made of cast-iron and, when desired, with cast-iron bottoms. The midfeathers and cabs are also made of iron when desired. The cylinder-washers are constructed entirely of cast-iron and sheet copper, except the sash, and have no internal parts or cover of wood to decay and no loose parts to get out of order. The copper buckets are spiral in form, having a steep decline toward the throat, which is of ample size to admit a free discharge of the water. The water-boxes are of cast-iron and bolted to the tub. They have large pipe connections for waste water, and are planed off on the top to receive the lifting-stands, which are planed off on their bases. The gearing is arranged to lift from either side of the tub and is compounded on heavy washers.

These washers are guaranteed by the manufacturers to throw water faster than any cylinder washer in the market. All of the proportions of the engine have been arranged with much care and the parts are all very heavy and strong. Further particulars may be had of Downingtown Manufacturing Company, Downingtown, Pa.

THE DOWNINGTOWN RAG-ENGINE.

Composition for Artificial Stone, &c.

A new composition for artificial stone to be used in the industrial arts consists of a combination of clay or silicate of magnesia, together with a solution of chloride of magnesium and boracic acid or barium chloride with magnesium chloride.

The especial advantages of this composition and its superiority over other cements, and especially over other magnesia cements, consist in its extraordinary cementing power and its lasting qualities, whereby artificially cast masses made from this composition are enabled to endure great wear and pressure without disintegrating; also, that any desired color resembling natural stone or marble may be communicated to the mass and retain the same durability, and that the hardening of objects cast from this mass may be accelerated at discretion and carried to any desired degree.

Another important advantage lies in the removal of all the injurious sulphate salts in the chloride of magnesium, which are formed in the usual manner of preparing all magnesia cements and artificial-stone masses by the addition to chloride of magnesium prepared, in the usual manner, of barium chloride, or to a quite pure solution of chloride of magnesium an addition of boracic acid.

The preparation of the composition is as follows: Magnesite, which occurs abundantly in nature, is calcined at a red heat until all of its carbonic acid is driven off. It is then ground together with from 30 per cent. to 50 per cent. of its weight of pure clay or kaolin, and mixed with water and kneaded into a stiff mass, like dough, which is then, by means of any suitable press, formed into thin cylinders or tiles. The tiles so obtained are dried, and then calcined at a red heat until silica or clay is free, and after being sufficiently calcined are ground into a fine powder, and the resulting magnesia clay is preserved until used in air-tight and moisture-proof receptacles.

A solution is prepared of pure chloride of magnesium of 24° to 32° Baumé mixed with 1 per cent. of boracic acid, or chloride of magnesium with chloride of barium, and with this the magnesia clay is mixed into a pasty mass, which may be used in that state as a cement, and forms a most powerful and adhesive cement; but for casts and artificial masses there should be added to it sand or pieces of stone in proportions varying from one-half to twenty or more times its weight, according to the article to be produced, and of such color as may be desired in the finished objects to be cast. The composition so prepared may then be cast in the usual manner in molds of wood, gypsum, or metal, with slight pressure, and when removed from their molds the objects cast harden at ordinary temperatures, or at 15° to 20° Celsius, in from three to forty-eight hours, according to the percentage of clay and the temperature employed.

The proportions and ingredients which have been found best for various purposes for which the composition is adapted, among others, are as follows:

For art casts, architectural ornaments, building-stone, and similar objects: Six parts, by weight, of magnesia clay; six parts, by weight, of magnesium-chloride solution; twelve parts, by weight, of fine, sharp, clean sand.

For marble, statuary, floor tiles, and similar objects: Ten parts, by weight, of magnesia clay; eight to ten parts, by weight, of magnesium chloride solution; thirty to forty parts, by weight, of marble sand.

For whetstones and grinding-stones: Fifty parts, by weight, of magnesia clay; forty-five parts, by weight, of magnesium chloride and boracic acid; seventy-five to one hundred and fifty parts, by weight, of emery or quartz powder.

For millstones: Three hundred parts, by weight, of magnesia clay; two hundred and fifty parts, by weight, of magnesium-chloride solution; three thousand parts, by weight, of rized quartz, flint or feldspar.

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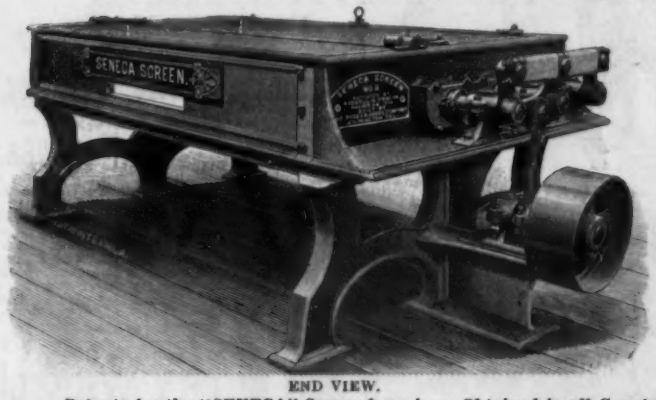
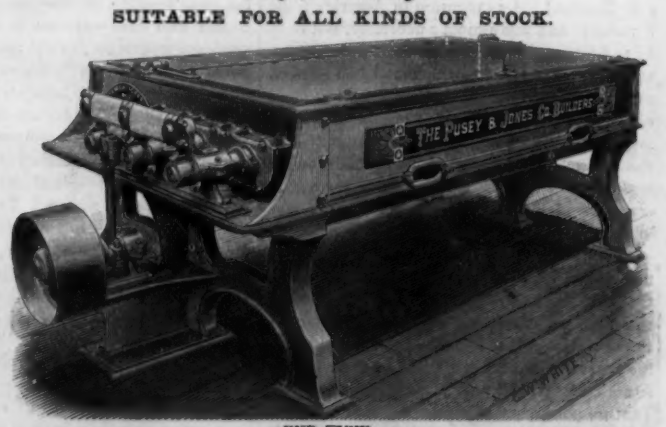


END VIEW.

OPEN VIEW.



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Patents for the "SENECA" Screen have been Obtained in all Countries where Patents are Granted.

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THE NOISE AND VIBRATION common to all Knocker Screens DO NOT EXIST.

The "Seneca" is self-contained, and may rest upon any ordinary foundation. The stock may be carried several inches deep on top of the screen plates, or a portion of the plates may be uncovered and bare, if desired.

FOR FURTHER INFORMATION ADDRESS

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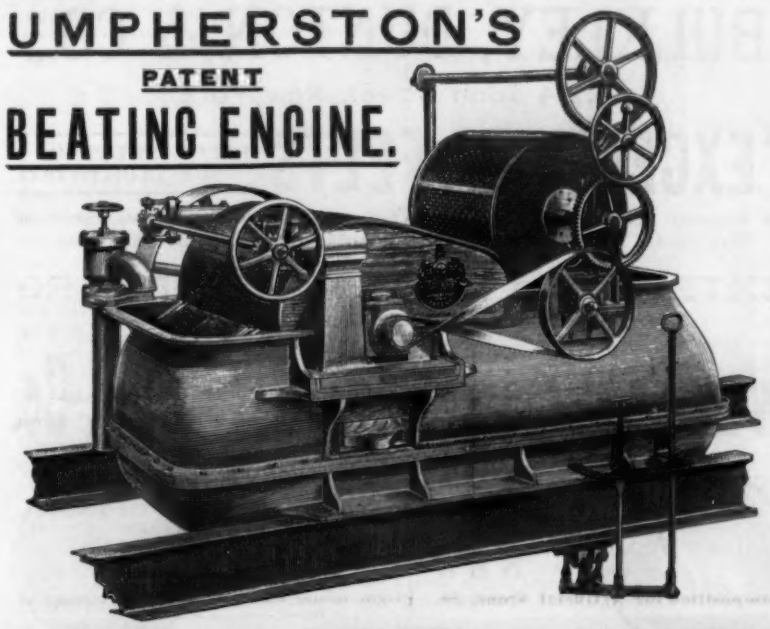

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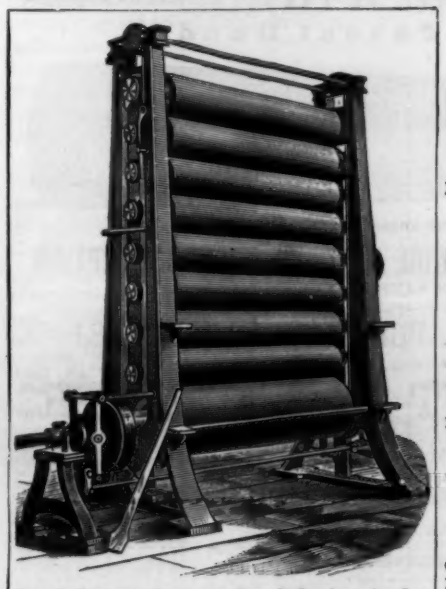

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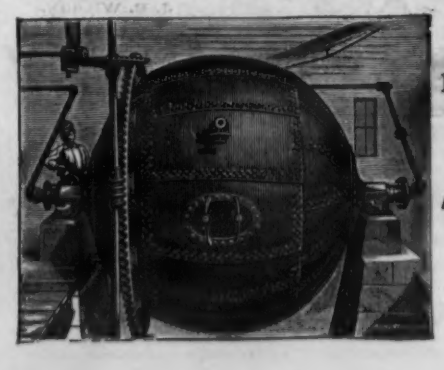

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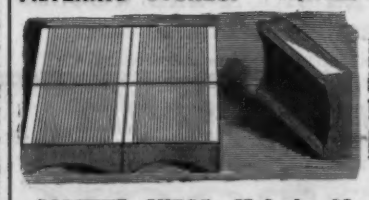

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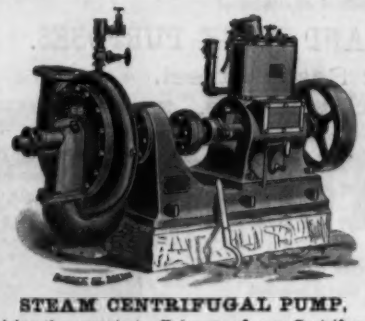

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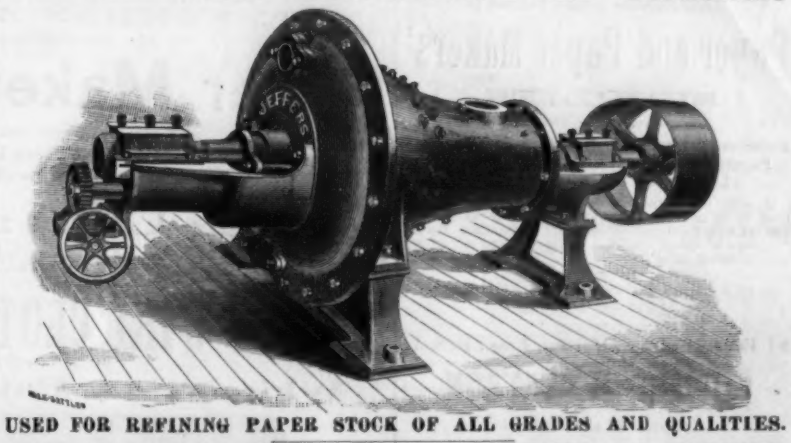

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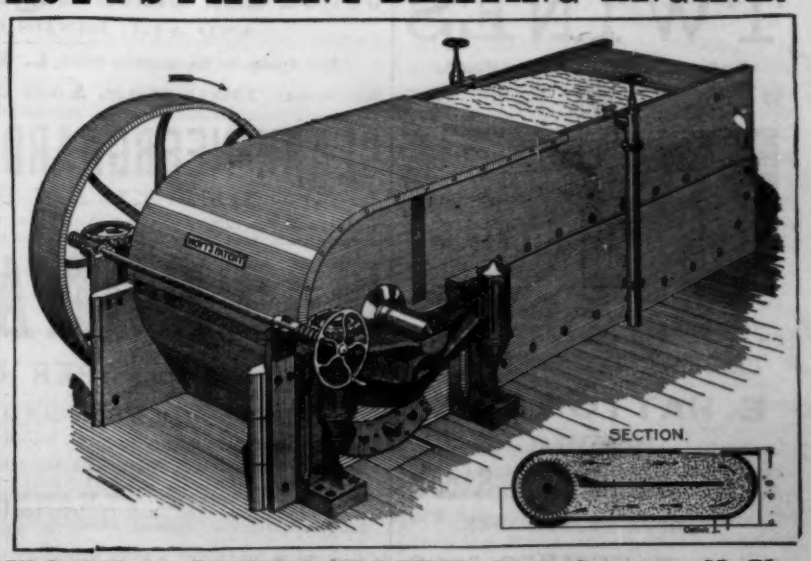

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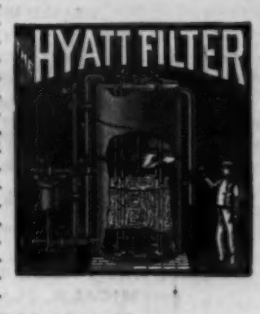

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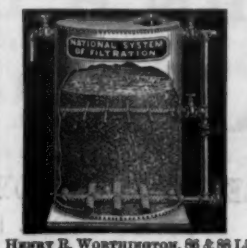

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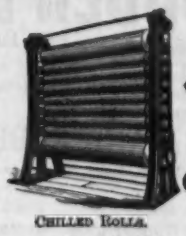

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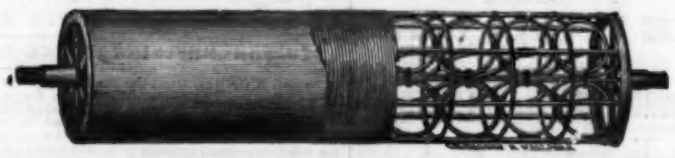

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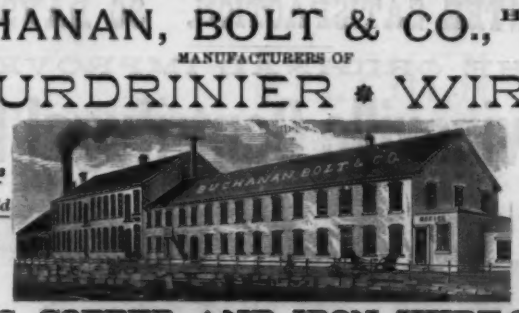

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